AN EXPERIMENTAL STUDY OF EFFECTS ON MEDICAL STUDENTS OF THREE METHODS FOR TEACHING PSYCHIATRY

by

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"We have all of us senses, it is true, - we hear, we see, we smell, we feel; but till we are taught, we know not what we hear, or what we see, or what we feel."

Richard Bright. Address Delivered at the Commencement of a Course of Lectures on the Practice of Medicine, 1832.

SUMMARY

AN EXPERIMENTAL STUDY OF EFFECTS ON MEDICAL STUDENTS OF THREE METHODS FOR TEACHING PSYCHIATRY.

Aim: The investigation was sponsored by the Nuffield Foundation and carried out in the Department of Psychiatry, University of Edinburgh. It set out to assess the relative merits of lecture teaching and seminar teaching as methods of psychiatric instruction for fifth year medical students. The hypotheses were that students would learn more factual knowledge from lectures; that they would acquire more clinical skill from seminar teaching; and that seminar teaching would be more effective in promoting desired attitude changes.

Research Design: By a table of random numbers students in two successive years were assigned to either of two training procedures. (a) 183 students (76% of Years A and B, 36% coming from Year A and 40% from Year B) were taught by lectures and clinical demonstrations given to the classes as a whole. (B) 58 students (24% of Years A and B, 9% coming from Year A and 14% from Year B) were taught by seminars, in 5 groups, each group of 12 students taught by one tutor throughout the training. The time available was the same for both methods of teaching, 27 sessions of an hour and 9 sessions of 1½ hours.

After the training, factual knowledge was evaluated by means of a multiple choice test. Clinical skill was tested by filmed interview tests. The professional examination in psychiatry (essay, clinical and oral tests) was also taken into account. Attitudes were evaluated by attitude questionnaires administered before and after the course.

Other relevant factors were also studied. Students were classified according to Nationality (Scots, English and Overseas). Women students were compared for performance and attitude with men students. Personality factors were studied by administering four inventories (The Extraversion, Neuroticism, Complexity and Thinking-introversion scales).

Third Instruction Method: An intermediate form of training was used for another year, Year C: lectures were provided but, instead of demonstrations to the class as a whole, seminars were given to small groups. The class of students therefore had a combined type of teaching and were studied with the same evaluative instruments.

Subjects: Four hundred and three students were studied. All cooperated, two students refusing to do the personality tests and one to accept his random assignment to a seminar group.

The investigation extended over three years. Findings were analyzed by a computer program specially written by Mr. D.J.Rees for the investigation, on the Atlas Computer at Manchester.

FINDINGS

1. Students taught by lectures did not gain more factual knowledge than students taught in seminar groups (p.115).

2. Students taught by lectures did as well in tests of clinical skill as students taught in seminar groups (p.115)

3. There was a considerable difference in attitudes of students taught by the two methods of numerous areas. Tutor-taught students were more satisfied over the contact they obtained with teachers (p.117). They perceived their teachers as more interested in them. (p.119). Seminar-taught students rated themselves as better taught in numerous respects. They considered they had obtained more psychodynamic knowledge. (p.130). They had been better taught how to examine a patient's mental state. (p. 133). They ended the course more interested in psychiatric patients. (p.140). They were more prepared to manage any psychotic patients they may see in later practice. (p. 142). They evaluated their psychiatric teaching with more approval than did the lecture-taught students. (p.145). No matter how they had been taught, students expressed a strong preference for seminar teaching. (pp. 160 and 170).

4. The combined form of teaching resulted in better performance in the professional examination in psychiatry (p. 151), (it was in the clinical examination that the students given Combined Teaching did conspiciously well - p. 153).

In all the attitude areas Combined Teaching had less markedly positive results than seminar teaching, e.g. students were intermediate in their preparedness to treat psychotic patients in later practice, (p.172) in their self rating of their ability to examine a patient psychiatrically, (p. 162), in the contact they were able to achieve with their teachers, and in their overall approval of the training. (p. 171).

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ACKNOWLEDGEMENTS

The work reported here is part of an experimental study of the effects on medical students of different methods for teaching psychiatry. The investigation which began in 1962 and continued for three years, was sponsored by the Nuffield Foundation. It was done in the Department of Psychiatry, University of Edinburgh, with Professor G. M. Carstairs' help and imaginative advice throughout. Mr. James Drewery took part in early stages of the investigation. Dr. Keith Hope not only provided statistical advice during the work reported here but is participating in ongoing analysis of the findings. Discussions with Professor Hilde Himmelweit were extremely helpful. Dr. F.M. Martin has followed the investigation and his parallel research into attitudes of medical students has been relevant and illuminating.

Mr. D.J. Rees wrote the invaluable computer program for use on the Atlas Computer at Manchester and his colleague Mr. S. Michaelson generously made available facilities at the Computer Unit of Edinburgh University. Mrs. Enid Forsyth was the research assistant in the project; former research assistants were Mrs. M. Smith and Mrs. A. Halcrow. The McGhie Fund, University of Edinburgh, made their appointment possible. Messrs. Geigy provided financial assistance for making the films of clinical interviews used as a basis for the Filmed Interview Test.

Chapter 1

EXPERIMENTAL STUDIES OF TEACHING IN MEDICAL SCHOOLS

A famous innovation in medical education was the abolition by Western Reserve University School of Medicine of the customary compartmentalization in the training of doctors, whereby science was taught in the first half of the curriculum and clinical aspects of medicine in the second (Ham, 1956). The teaching was restructured to bring about integration not only of preclinical sciences with clinical subjects, but also to provide medical students with responsibility for patients from the outset of their training. In phase 1 the emphasis was on the normal person; at the same time as anatomy and physiology teaching started, the doctor-patient relationship was experienced by each student in the first weeks of his studies through the assignment to him of a pregnant woman whom he observed pre-natally and at delivery.

The young student's lack of clinical expertise is an embarrassment to him, especially when patients look to him for professional advice. To counter his discomfort, the student's role was conceptualized as essentially that of an observer (Family Clinic Procedures, 1957). As a "physician in training" he was held responsible for making observations under supervision, but not for medical care. In the Family

Clinic/

Clinic he followed the growth and development of the infant he had delivered, and gradually increased his responsibility to include the other family members. Problems concerning the family under his care were raised for discussion in the small first year preceptorial groups conducted by the same tutor throughout the year. Students made regular monthly home visits to the family under their care.

In phase 2 he learned the principles of medicine concurrently with his study of pathology. By the time he arrived at phase 3, which occupied the second half of his training, the Western Reserve student had thus already had experience in managing patients. Now, when in most medical schools clinical medicine and surgery become the dominant subjects, he was deliberately given "system teaching", instruction about the systems of the body, not fragmented in accordance with the professional specialisms in organized medicine.

The Western Reserve Programme is often spoken of as an "experiment" in medical education, but the term is of course impermissible because no experimental controls were devised. All students had the same training experience, and no objective criteria were defined to evaluate effects of the training. In the absence of valid performance measures, the best that could be done was to ask teachers whether they considered the

innovation/

innovation a success (Horowitz and Herzberg, 1960). They considered that the training achieved some objectives more effectively than it did others. They agreed most among themselves that the modification in the curriculum succeeded in preparing the student for further self-education. On the other hand, a proportion of the clinical teachers were critical about the knowledge of clinical medicine students gained. Eight per cent of the teachers thought the Family Clinic a weak component of the teaching. The soundest part of the programme was considered the integrated teaching (also variously called subject committee teaching, correlated and interdepartmental teaching). Also regarded favourably was the early introduction of student-patient contact and the facilitation of relations between students and teachers.

One of the most interesting results of the reorganization of the Western Reserve Curriculum related to the choice by students of professional models. This information was obtained by comparing attitudes to teachers among Western Reserve students with corresponding attitudes of students at other medical schools (Rogers et al., 1960). The new Western Reserve curriculum had as one of its goals the promotion of closer relations between students and their teachers. Western Reserve students proved to be more satisfied than were Cornell students with the level of interest shown in them by their teachers. Also, when students were asked how many of their teachers knew

them/

them by name, a difference was found between the two schools. At Western Reserve students start out less well known than Cornell students are, but the number of Western Reserve students who say they are known to at least 11 members of the teaching staff then rises steadily. At Cornell the level stays almost the same throughout the training.

The teachers whom students choose as professional models are also different at the two schools. At Cornell the students make their role model choice on the basis of reputation, tending even in their final year to choose teachers with whom they had little contact. But Western Reserve students (because of the integrated curriculum) make contact with clinicians from the beginning of their medical studies. They differ from Cornell students in choosing as role models teachers with whom they have a great deal of contact. They also chose models from among a wide range of teachers, both preclinical and clinical. Role models were narrower at Cornell, where students admired most the teachers with reputations, rather than those they knew personally: there one man, a senior physician, was chosen by 17% of students as their professional model.

These after-the-fact investigations go some way to remedy the serious omission from the Western Reserve innovation of accompanying evaluative research, but they cannot tell us whether the new teaching in fact improved on the curriculum it

replaced/

replaced.

When the Comprehensive Care Programme was started at Cornell University Medical School in 1951 a rigorous evaluative study was proposed. The programme was designed to test whether better training would result if medical students were taught about out-patients rather than in-patients. This important investigation, therefore, set out to test whether traditional medical training was defective because students were made to concentrate on bed patients investigated within specialist departments, and were thus indoctrinated in an "institutionalised" orientation to patients, not appropriate in later practice. The remedy suggested was training in the care of ambulant patients. A team of sociologists from Columbia University, headed by Professor Merton, were to compare the effects on students taught in relation to ambulant patients, and students who studied the traditional fourth-year course in medicine in the hospital wards.

A controlled design, allowing some students to be given the experimental programme while other students similar in all other respects were taught traditionally, "would have been the simplest and safest for evaluation of the new course in comprehensive medicine" (Kendall, 1964), but the executive faculty of the medical school refused to sanction such an experiment. The medical teachers rejected the experimental

design/

design on the grounds that if the new course were really superior to the old one, it would be unfair to students in the control group to deprive them of participation in it. Later the faculty were to prohibit publication of some findings from the investigation, which was permitted only limited distribution (Kendall and Jones, 1960).

The research design adopted in place of the one originally proposed was to administer an attitude questionnaire by the panel method, the same group of students answering the same questions at different crucial times. In this way changes in attitude could be looked for after students treated out-patients. Half the class took the course in the Continuous Care Clinic before doing surgery, obstetrics and an elective, while the other half did the Comprehensive course after these subjects, in the second half of the year. The original research question, what difference it makes to later professional competence when a student is taught on out-patients rather than in-patients, could of course not be answered. This investigation did not determine what the student learns from managing a patient with chronic illness over a time. Instead, the research team gained insight into the processes by which students are inducted into medical culture isolating the components of their training (professional attitudes, values and behaviour patterns) not obtained through formal instruction.

Their/

Their publication explores "the ways in which the social structure of the medical school, like that of other organizations, largely forms the behaviour of its members and so affects the making of a medical man". Distinctive social and psychological processes were identified which transmit the professional culture of medicine within the special social environment of the medical school. (Merton et al., 1957).

Their report was titled The Student-Physician, to convey their finding that at Cornell Medical School the student is accepted by his teachers as a colleague, and cooperatively assisted towards his full participation in the profession.

Medical student status was defined very differently by a team of Chicago sociologists. From the start they set out not to evaluate effects of different teaching methods, but to study the professionalization process at Kansas Medical School, concentrating on disparities between aspirations and realities. They found that students come to medical school idealistically eager to learn "everything" relevant to medicine, but rapidly altered their perspective to learn "what the faculty wants". In contrast to the Cornell interpretation of the students' status, at Kansas the student was found a "boy in white", in subservient position to his teachers, his prolonged inferior status undisguisedly regarded as a necessary ordeal equiping him for later entry to the profession (Becker et al., 1961).

It may well be that both teams have arrived at valid findings. The atmosphere and objectives of Cornell and Kansas medical schools may indeed diverge. There have been comparative studies of medical school environments, one in particular demonstrating that the atmosphere of a medical school influences the professional careers selected by its graduates (Hutchins, 1962). By using a rating questionnaire on medical students in 25 United States schools, the schools with a predominantly clinical orientation were distinguished from schools with predominantly teaching-and-research orientation. Students from schools evaluated as predominantly clinical later chose general practice or speciality practice in high proportion. On the other hand, students from schools with a teaching-and-research orientation tended more often to seek careers in which teaching and research was combined with clinical work. A factor differentiating these two types of school was that in clinically-oriented schools the teacher-student ratio was low, while in the teaching-and-research oriented schools there was a higher proportion of teachers.

Investigations of the medical school environment have informed and refined subsequent research evaluating the effects of different training procedures. There has been one notable evaluative investigation, at the University of Colorado School of Medicine (Hammond and Kern, 1959). Again a special clinic was started, the General Medical Clinic, in order to teach

comprehensive/

comprehensive medical care to students. In this experiment only half the class were given the experimental education, so a comparison could be made between the experimental course and the traditional curriculum.

This experiment sought to answer whether the traditional compartmentalised curriculum, requiring the student to shift from one department to the next, working briefly with each of his patients, enabled the student to learn better than they did in the experimental comprehensive clinic. Performance of students was measured with pre-and post-tests. Information, clinical skills and attitudes were, as is essential, evaluated separately with specific techniques. Questionnaires, films of doctor-patient interviews, and recordings of student case-presentations were used to rate students' progress. The main finding was that the General Medical Clinic students, missing out on systematic instruction, nevertheless gained as much factual knowledge and clinical skills as the other half of the class, who were taught conventionally within the sub-divisions of separate clinical departments.

A difference was also found in students' attitudes to patients. GMC students had the same attitudes when graduating as when they started the final year. Conventionally-taught students, however, had increasingly negative attitudes towards every aspect of comprehensive medical care studied.

General/

General Medical Clinic students, however, were not more competent than control students in psychological knowledge and skill; nor were they more inclined to deal with psychological problems, or even to develop more fully their relations with patients. More than a programme of comprehensive training, such as the general medical clinic provided, is needed to equip young doctors to deal with patients' psychological problems.

When plans were made to modify the teaching of psychiatry at Edinburgh University, an experiment was designed to test whether the proposed innovation could be shown to have any measurable advantages over the training method it replaced.

The investigation described in this report set out to test if any difference resulted when students were taught by two different methods. One was the programme in use before, consisting of lectures to a large class of students; in addition patients were demonstrated to the class as a whole. This was the conventional method for teaching psychiatry, still in use in many British medical schools. The teaching innovation introduced, thought to be an improvement on the one in use, consisted of tuition in small groups. Students who received the seminar teaching in place of lectures were randomly selected from the large class. Each student had an equal chance to be taught by either method. A tutor was provided for each group of 12 students randomly selected to be taught by seminars;

these/

these seminar-taught students had no lectures or case demonstrations and met for the same number of hours as the large class; their tutors supervised their studies and decided how patients should feature in their training.

These two forms of teaching were evaluated in an experiment extending over three years. (A third year of students was taught by a combination of lectures and seminars, to evaluate the advantages derived from some seminar teaching in a course consisting mainly of lectures.)

Chapter 2

STUDENT STATUS AT EDINBURGH

The investigations carried out at Kansas and Cornell medical schools demonstrated how students' professional development is influenced by the institution atmosphere of the school. This evidence about the effect of the medical school environment remains highly relevant to any experimental evaluation of teaching methods despite the fact that the two major sociological investigations into medical students' status arrived at contrasting conclusions: for the Columbia group he appears as a physician in training (Merton et al., 1957), while the Chicago group perceives the Kansas student as a boy, subjected to an arduous rite of passage (Becker et al., 1961).

What status an Edinburgh student enjoys or tolerates has not been explored but a preliminary publication of the Medical Student Enquiry, sponsored by the Association for the Study of Medical Education (Brotherston et al., 1963), allows some comparisons to be made between Edinburgh and other British medical schools. Edinburgh resembles a London medical school in that the fathers of two-fifths of the students had a university education; in provincial medical schools fewer fathers have been to university. A quarter of Edinburgh

students/

students in their clinical years live with their parents; another quarter live in private lodgings, 7 per cent in hostels and 40 per cent in flats. In the fifth year of their studies, 11 per cent of Edinburgh students are married (about half have a child or children), 13 per cent are engaged while 76 per cent are single and not engaged.

Students in the Edinburgh medical school are taught formally, and in large classes (the three fifth year classes reported on in this investigation contained 112, 132 and 162 students). Brotherston et al.,(1963), reporting on 371 fifth year students in five medical schools, found that 35 per cent described their academic contact with teaching staff as sufficient, 49 per cent would have preferred more contact and 16 per cent would have preferred a lot more contact.

Contact with teachers: Three classes of students were questioned in the present study at the start of their fifth year about the degree of their association with teachers. The question was put before they began their study of psychiatry. A fifth of the students were satisfied with the contact they were able to make with their lecturers in the Edinburgh medical school.

TABLE 2.1. PERSONAL CONTACT WITH TEACHERS

Would you consider you have been given much opportunity for making personal contact with your teachers in the medical school?

	Number	Per cent
Yes	89	22
No	309	78
	398	100

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Only a small proportion of these students consider they were permitted the amount of personal association with their teachers which they considered adequate to their learning requirements.

TABLE 2.2. GUIDANCE FROM TEACHERS

Do you think that at this medical school teachers are inclined to give students:

	Number	Per cent
Too much guidance	71	20
Not enough guidance	290	80
	361	100

Four-fifths of fifth year Edinburgh medical students receive less guidance from their teachers than they expect. The insufficient staff contact with students at Edinburgh is apparent, and will have consequences suggested by the evidence cited in the previous chapter that degree of teacher-student contact in a particular school has such far-reaching consequences as influence on graduates' subsequent career choices. For reasons that will be explored later, men students are more dependent on contact with teachers than women and more dissatisfied over the insufficiency of direction with their studies.

Sex ratio: The proportion of women students in five British medical schools is 23 per cent, varying from only 16 per cent

at/

at a London school to 31 per cent at a provincial school. Women make up 23.4 per cent of the medical student body at Edinburgh. In the three fifth year classes studied in this investigation, 34 per cent of the students were women. This sex ratio among students is an aspect of the Edinburgh medical school atmosphere, and of British medical schools in general, that has important effects. In Britain, a very much larger number of women are allowed to enter medicine than in the United States, where female entrants were kept down to six per cent (Gee, 1956). Among the British schools Edinburgh is average in its receptiveness towards women applicants. Teachers may be critical that so many women gain admission, for only a few women entering the medical profession are likely to remain single and childless, with the result that marriage and motherhood in combination lead most women doctors to withdraw from professional work altogether or to undertake part-time rather than whole-time work (Medical Practitioners' Union Enquiry, 1966).

The frequently expressed objection that to train women medical students is professionally wasteful is not relevant in the present investigation; my concern has been to explore the extent to which men and women students vary in quality of performance and in their professional attitudes. Sex emerges as a factor that must be controlled in an experiment comparing the effectiveness of different teaching methods (see Chapter).

Nationality/

Nationality: Another important feature of the student body at Edinburgh is that almost a fifth come from overseas, especially from India and Africa. Very few of these overseas students are women, as Table 2.3 demonstrates. The mistaken assumption is often made that most Edinburgh medical students are Scots. In fact, a larger proportion comes from England and Wales.+

TABLE 2.3. NATIONALITY AND SEX, YEARS A AND B

	Per cent		
	Men	Women	Total
Scots	29	11	40
English and Welsh	32	11	43
Overseas	15	2	17
Number of Students	182	59	241

Nationality is yet another factor requiring to be controlled in an evaluation of different teaching methods. For example, it will be shown that in a test of factual knowledge after psychiatry instruction, Scottish students tended to do best, English students less well and overseas students most poorly (see Chapter 4). The relatively inferior performance of overseas students after being taught psychiatry was also

reported/

+ Two indicators of Nationality were available. Primary weight was given to the schools and colleges attended since the age of 13 years, because previous educational background is of greater interest; the country of birth was also known for each student.

reported from Belfast (Gibson, 1965). The foreign student may be penalized in examinations by having to express himself in a language not his mother tongue. Yet other influences may be operative, and explain the poorer performance of English than Scots students: one possibility is that the more competent English students gain admission to schools in England. Regardless of possible causes, the factual finding is that performance in an objective test of psychiatric knowledge is highly correlated with country of origin ($p = .0001$).

Nationality has an important influence on students' subjective reactions. How students in Years A and B evaluated the quality of their psychiatry teaching correlated with their country of origin. Scots students tended to consider their teaching good, English students only average while students from overseas were rather more negative still in their reaction (Table 2.4).

TABLE 2.4. NATIONALITY AND APPROVAL OF THE PSYCHIATRY COURSE, YEARS A AND B.

	Total Number	Per cent			Total
		Scots	English	Overseas	
Very good	18	4.2	2.9	0.4.	7.5
Good	87	18.1	14.3	4.2	36.6
Average	108	14.3	21.4	9.7	45.4
Poor	25	4.6	3.8	2.1	10.5
All Students	238	98	101	39	100

Tau = .15; unit normal deviate = 2.55; $p = .006$.

Differing attitudes and beliefs associated with nationality also complicated issues already in evidence before the instruction to be evaluated was even started. Before being taught psychiatry, students were asked their opinion of its relevance to the general practice of medicine.

TABLE 2.5. NATIONALITY, AND OPINION ABOUT RELEVANCE OF PSYCHIATRY, YEARS A AND B, BEFORE INSTRUCTION

I am convinced of the direct relevance of psychiatry to the general practice of medicine:

	Per cent			
	Yes	No	Total	Number of Students
Scots	99	1	100	97
English	92	8	100	102
Overseas	80	20	100	40

Tau = .23; unit normal deviate = 3.76; p = .0008.

Scots students almost unanimously consider that the subject they are about to study is of direct relevance to their later professional work. English students are more inclined to question the relevance of psychiatry, while a fifth of overseas students reject that it is relevant in general medical practice. They may be reflecting the belief commonly expressed by medical educators in less developed countries that fatal or disabling illnesses claim the prior concern of the medical profession and only after they are controlled can psychiatry be accorded

clinical/

clinical importance. The effect of nationality in the present investigation - over and above the effects of differing training methods - on this professional belief about psychiatry is highly significant; the statistical test[+] finding (Kendall, 1955) shows that the probability of the association between nationality and opinion about relevance of psychiatry occurring by chance is less than one in one thousand.

Future Career satisfaction: In addition to their relationship to lecturers, their sex status and their nationality, students in the fifth year of their studies at Edinburgh show varying degrees of contentment with their choice of profession, and they look for a variety of rewards from their future careers.

Almost a fifth of the students in Years B and C, when asked after their study of psychiatry whether they had experienced serious uncertainty about medicine being the right profession for them, admitted serious doubts about being in medicine.[++] Another third reported some uncertainty. Under half had progressed halfway into their clinical studies unassailed by any doubt whatsoever that they had erred in entering medicine.

Table 2.6./

+ See Appendix A.

++ This and some of the following questions were not included in the questionnaire administered to the Year A students.

TABLE 2.6. CAREER DOUBTS, YEARS B AND C.

Have you had any serious doubts about medicine being the right career for you?

All Students	Serious doubts	Some doubts	No doubts whatsoever
288	18%	37%	45%

Students also differ among themselves in the stage when they make up their minds about their medical careers. Only a few have already decided about their future professional work. This fact has two important implications. In the United States there is a strong trend in medical education to have medical students select their professional area early, so that the latter part of the curriculum will become largely elective, geared to a student's individual professional future (The Coggeshall Report, 1965). Clearly senior Edinburgh students are not in a position to express such choices even when already well advanced in clinical studies. Second, the career possibilities available for young doctors in Britain depend on the openings in the various branches of the National Health Service. Whatever their own aspirations, many after graduation will have to bend to administrative and organizational determinants of medical career patterns. Discussions with Edinburgh students show that many are unaware of the discrepancy between

what students choose to do and what the staffing structure of the Health Service will permit. Only for psychiatry does a balance exist between the number of would-be specialists and the posts available.

At present the ratio of general practitioners to consultants is 2.75:1. Four times as many students want to be paediatricians as exist proportionately among NHS consultants. The proportion of would-be obstetricians is three times as great as the proportion of obstetricians among all NHS consultants. Medicine and surgery are also oversubscribed, although not so markedly (Martin and Boddy, 1962).

TABLE 2.7. DECISION ABOUT FUTURE CAREER, YEARS B AND C.

Have you decided yet on the nature of your eventual career in medicine?

All Students	Definitely decided	Fairly decided	Excluded some possibilities	Completely open mind
289	10%	47%	28%	15%

In assessing effectiveness of a training method, specialist teachers are much tempted to enquire whether the training influenced students to consider the new subject as a possible future career for themselves. Some teachers of psychiatry have as an explicit objective the attraction of good students

into/

into the speciality (Walton and Drewery, 1964). These teachers are characterized by the strong emphasis they place on instructing students about "descriptive" psychiatry, textbook descriptions of the symptoms, diagnosis and treatment of the classes of mental illness (Walton and Drewery, 1966).

Evaluation of the proselytizing effects of a course of instruction can be carried out more accurately if the varying stages of career decision reached by individual students are kept in focus. The psychiatry course can usefully exert a contrary effect, as occurred with some students at North Western Medical School, Chicago, for whom the instruction dispelled ideas about entering psychiatry, which they had before being taught the subject (Miller, 1965).

Careers selected by a student in his later medical work are influenced by the atmosphere and staff structure of his medical school (Hutchins, 1962). Fifth year students at Edinburgh, in expressing what they look for in their future careers, also reflect back in some measure what they absorbed from the professional models their teachers personified.

Table 2.8./

TABLE 2.8. FUTURE CAREER SATISFACTIONS, YEARS B AND C (288 STUDENTS).

How much importance do you attach to each of the following as a source of satisfaction to you in your later work as a doctor?

	Per cent		
	Important	Fairly important	Not important
Opportunity to use skilled techniques	45	39	16
Opportunity to specialize	45	41	14
Good income	28	55	17
Opportunity for research	17	36	47

The average Edinburgh student, nearing the end of his clinical training, hopes in his later career to be able to practice skilled technical procedures, and he wants to become a specialist. It is fairly important to him to earn a good income. He does not want to undertake research in the course of his professional career. Less than a fifth, a portion of the class who still stand out clearly among graduating Edinburgh students a year more senior, express strong research interests (Walton et al. 1963, 1964).

Selection/

Selection Methods: The medical school pre-determines the nature of each graduating class at the very start of training, through the selection procedure used to decide which applicants will be admitted to the school. In selecting entrants to university, much weight is given to applicants' school performance, an indicator of questionable validity as a predictor of university performance. "It would appear that a substantial part of the variation in students' performance in university is basically unpredictable from evidence available at time of entry to university." (Nisbet, 1966). Even those medical educators who view school performance as a useful predictor of success in medical school examinations are faced by the evidence that medical school performance does not correlate with competence or success in later professional life (Peterson et al., 1956, Price et al., 1964).

Table 2.9 shows that there were six applicants for each student who began medical studies in Years A and B. (Two years later the number of applicants for the 160 places in the medical school had reached 2,300.) Some applicants make multiple applications, to more than one medical school, so the application figure is inflated; nevertheless there is no doubt that for applicants accepted equally good applicants are turned away. Many applicants rejected by one medical school readily manage to get accepted elsewhere: 45 per cent of male applicants rejected by Sheffield were able to qualify medically at another school/

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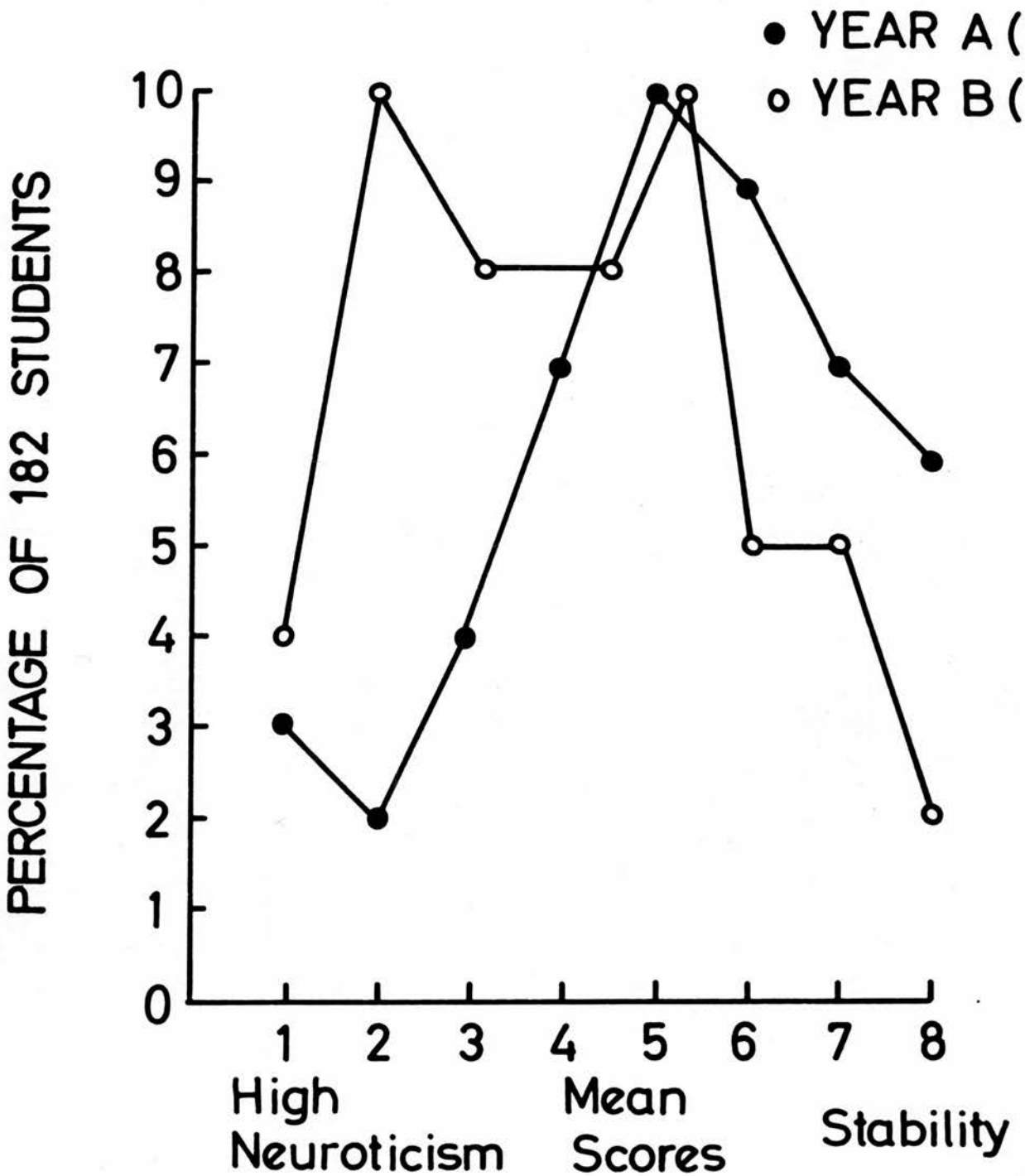
FIGURE 21

NEUROTICISM SCALE SCORES IN LECTURE CLASSES, BY YEAR.



Tau for difference in Neuroticism by Year of Intake =-·23, Z =-3·16, P= ·0002.

school; the comparable figure for women rejected by Sheffield was 34 per cent (Furneaux, 1961). Of the Sheffield rejectees who did gain admission elsewhere, 86 per cent of the women qualified as doctors as compared with rather less men, 79 per cent.

TABLE 2.9. APPLICANTS TO EDINBURGH IN TWO SUCCESSIVE YEARS

	Year A	Year B
Applicants	884	964
Places offered	221	235
Started studies	137	147

1 out of 4 applicants selected; 1 out of 6 begins medical study.

As disconcerting as the fact that a particular school's rejectees succeed in their studies at another school is the fluctuation in criteria which the same school unknowingly applies from year to year. The students in Year A of this study differed significantly from those in Year B. Clearly the selectors were screening differently in the successive years. They examined applicants' school records and a panel of teachers (not altogether the same panel in both years) also interviewed applicants. The Year B selectors chose students who were conspicuously higher in Neuroticism scores than obtained among the class selected the previous year. Figure 2.1. compares

Neuroticism/

NEUROTICISM SCALE SCORES IN SEMINAR GROUPS, BY YEAR.

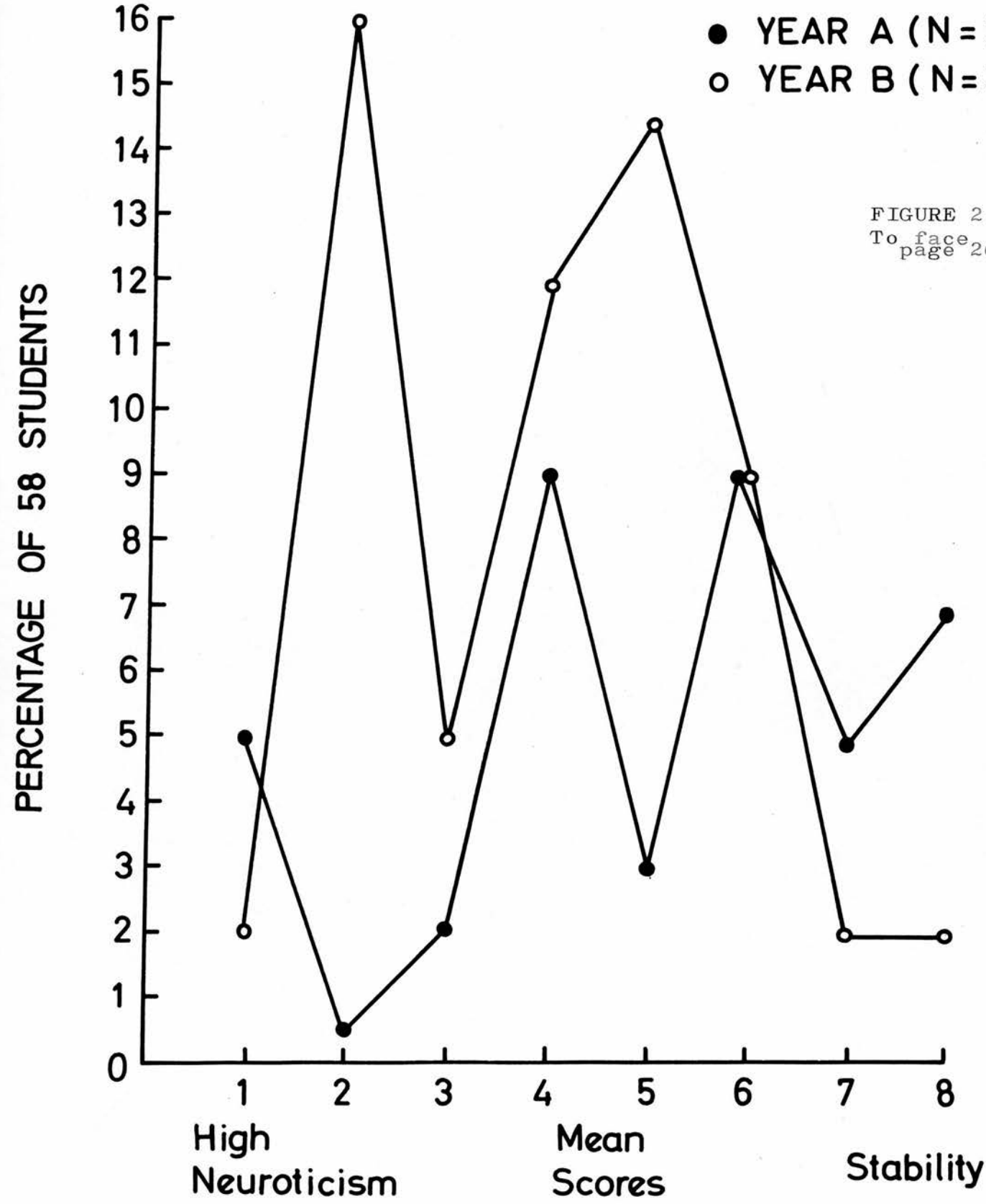


FIGURE 2.2
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Tau for difference in Neuroticism by Year of Intak
= -·25, Z = -3·61, P = ·0002

Neuroticism scores of students taught by lectures in the two years. The Year A scores, charted by solid discs, cluster in the 5th and 6th categories out of eight, i.e. at the stable end of the Neuroticism continuum. The Year B lecture-taught students, charted by circles, in contrast accumulate in two peaks, one in the 2nd highest Neuroticism category.

This unwitting selection for Neuroticism in Year B is also evident among the students taught by seminars (Figure 2.2). At the same statistical level of significance, Year B students proved to be higher in Neuroticism.[+] At the behavioural level, the chief difference that teachers commented on spontaneously was the greater responsiveness of Year A, and their impression that Year B was more resistant to the concepts presented to them during the psychiatry course.

Students in successive years, therefore, can differ significantly not because of teaching method used but because of variation in selection procedure. For this reason, students from both Year A and Year B were randomized to each of the two teaching methods evaluated, Lecture Teaching and Seminar Groups. Differences found after these two training procedures are thus not contaminated by possible consequences of varying years of/

[+] An analysis of covariance, controlling for sex and size of class, confirmed that Year B students were higher in Neuroticism than Year A students; variance ratio = 16.37, $p < .025$.

of entry. This factor has not been controlled in evaluating the third training method to be described, Combined Teaching. Only Year C students were taught by this method; therefore findings about it will be interpreted only after further checks and with caution.

Chapter 3

LECTURERS' OBJECTIVES IN TEACHING PSYCHIATRY TO MEDICAL STUDENTS

When the standard students achieve in the course of their training has to be assessed, judges are confronted by a "criterion crisis" (McNemar, 1952). By what yardstick will they measure performance? Evaluation is the more difficult in the case of a subject as complex as psychiatry, which has a number of different component areas, in any of which a student may perform well or poorly. After an elaborate evaluative study of a sister profession, clinical psychology, the conclusion was reached that accurate clinical or statistical prediction of trainees' eventual performance was not attainable because professional competence is so many-faceted (Kelly and Fiske, 1951).

Teachers, explicitly or implicitly, have expectations of their students; they have arrived at a more or less definite formulation of the student's role. Poor students are those who fail to fit the role. As universities become increasingly inclined to examine the effectiveness of teaching, educational goals are defined and training programmes are scrutinized (Bloom, 1956; Bloom, 1964).

One/

One method for evaluating performance of students after a course of instruction is to invite lecturers to specify what their teaching objectives are, and then to assess each student following the training to assess the extent to which they meet their teacher's requirements. The good student by such criteria is the one who most closely fulfills his teachers' specifications.

This assessment methodology is known as the "analytical" approach (Stern et al., 1963). The medical school exists to achieve a specific purpose, the production of doctors. A department of psychiatry is included in the school to add to the training of future doctors certain components of professional competence considered desirable (Ebaugh and Rymer, 1942; Whitehorn, 1952; World Health Organization, 1961). The staff of a psychiatry department are entrusted by the medical school to decide on the department's contribution to the overall medical training and to implement the required educational goals effectively.

Teachers of psychiatry can be asked to state their training objectives, and to specify the teaching procedures by means of which they propose to achieve their goals. (Such explicit objectives, even if stated in operational rather than vague and abstract terms, may diverge grossly from what is actually done and the results occurring in practice.) Some influential teachers may not only have avoided spontaneously to undertake

any/

any explicit definition of their objectives, but if asked to do so will impatiently deny that the effort they are called to make has any value. Two enquiries were carried out to find what lecturers in the Edinburgh Department of Psychiatry considered should be taught. Three honorary lecturers who could have replied to the first enquiry (Walton and Drewery, 1964) did not, and the same number did not respond in a second enquiry (Walton and Drewery, 1966).

The First Study of Lecturers' Goals

In the first investigation lecturers were asked four questions: 1. What should the goals of a course in psychiatry for medical students be? 2. What subject matter should be taught? 3. What teaching methods were preferred? 4. By what means should students be evaluated to test if teaching aims were achieved?

Teaching objectives specified by lecturers could be classified in nine categories: Class 1 was comprised by five categories concerned with providing information about aspects of psychiatry. Class 2 was made up of four categories, teaching goals aiming to foster in the student attitudinal change towards patients as people.

Class 1. Goals Concerned with the Acquisition of Information

1. Specialist Systematic Goal: This goal, specified by all lecturers (Table 3.1), is to teach systematic clinical psychiatry

- the symptoms, diagnosis and treatment of the classes of mental illness. "The student is to be acquainted with the phenomena of mental illness and, most important, to be equipped with a scheme for eliciting these" was how one lecturer described this goal.

TABLE 3.1. RANK ORDER OF TEACHING GOALS

Goal	Number of Lecturers Specifying	Per cent
Specialist systematic	21	100
Holistic	11	52
Behavioural scientific	11	52
Interpersonal	7	33
Psychotherapy	5	24
Community orientation	5	24
Continuing student	3	14
Propagandist	2	10
Legal and administrative	2	10

2. Psychotherapy: Fewer than a quarter of the lecturers favoured teaching students clinical techniques for managing patients by psychological methods (psychotherapy or interview techniques).

3. Behavioural Scientific Goal: Half the lecturers advocated teaching the sciences of psychology, sociology and anthropology, and scientific method itself, to enable students "to appraise critically current and future reports of new therapies".

4./

4. The Continuing Student Goal, aiming to inculcate studious habits in the ensuing medical career, was specified by only three lecturers.

5. Legal and Administrative Goal: Only two lecturers wanted students taught legal and administrative procedures in mental disorder.

Class 2. Goals Entailing Attitude Change in the Student.

6. Holistic Goal: This teaching aim stood second in the lecturers' favour, more than half wanting students to regard the patient as a total person, i.e. countering narrow emphasis of medical training on diseased organs, and lack of concern in students about emotional and social factors in illness. If they were not among the majority who selected the specialist systematic goal as their first preference, most lecturers specified as primary this goal of creating awareness about the continuity of organic and psychological illness.

7. Interpersonal Relationships Goal: Teaching the body of theory about inter- and intrapersonal psychological processes, sometimes labelled "psychodynamics", was specified by seven lecturers. The psychiatric teacher was viewed as fitted "to introduce the importance of interpersonal relationships in the practice of medicine".

8./

8. Community Orientation Goal: Five lecturers wanted students to grasp the importance of social influences and community structure upon outcome of treatment and as causative factors. "The agencies of the Welfare State" were mentioned, and the doctor's responsibility to make benefits available to such patients as need them.

9. Propagandist Goal: This proselytizing aim was advocated by three lecturers as a teaching objective, motivating the student to specialise in psychiatry after graduation or to acquire special psychotherapeutic techniques for use in general practice.

From this investigation it became clear that Edinburgh lecturers gave more weight to the acquisition of information by students (Class 1 Goals), and less emphasis to goals aiming to change student attitudes. This finding had clear implications for evaluation of effectiveness of teaching. The amount of information a student gains from training can be assessed reliably by an objective (multiple choice) examination; attitudes can be studied by means of appropriately devised attitude questionnaires.

An important relationship was discovered between a lecturer's work status and the training goals he advocated. Lecturers are either employed full-time by the university

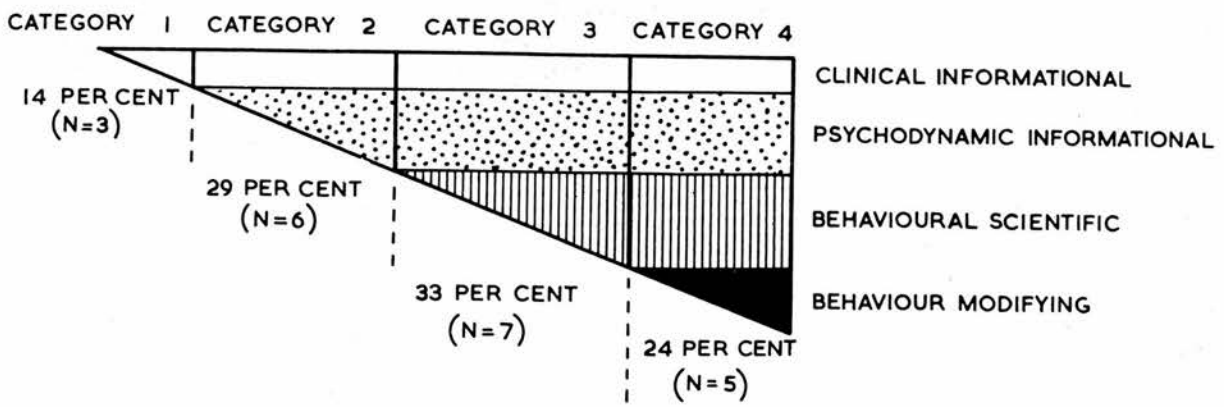
(academic /

(academic staff) or hold National Health Service psychiatric hospital posts with honorary teaching appointments (psychiatric hospital staff). The working experience of the two types of lecturer differs: academic lecturers are appointed primarily to teach, while hospital clinicians have a relatively greater responsibility to treat a wide range of patients.

Hospital clinicians tend to hold that medical students should be taught clinical and psychodynamic information. Academic lecturers, on the other hand, while advocating these informational goals, also advocate behavioural scientific and technical psychotherapeutic goals. This relationship is statistically significant: $X = 3.82$, $p < .05$.

Using an empirical rank ordering technique (Guttman, 1950) the lecturers were found to distribute themselves as an ordinal scale. Only in two out of 56 cells did a lecturer's position in a goal-orientation category not fit in the scale, i.e. more than 90 per cent are correctly ranked ordinally (Figure 3.1).

FIG.1. LECTURER'S GOAL ORIENTATION



Four types of lecturer could be identified at Edinburgh school in respect of their teaching goal orientation:

Category 1: 14 per cent of lecturers specified an exclusively Clinical Information orientation

Category 2: 29 per cent of lecturers specified a Psychodynamic Information goal-orientation in addition to Systematic Information.

Category 3: 33 per cent of lecturers specified a Behavioural Scientific orientation in addition to the other two.

Category 4: 24 per cent of lecturers specified a Psychotherapy goal in addition to the other three.

The finding that if a lecturer specifies the Psychotherapy orientation he predictably also holds the other three orientations, while if he specifies a Behavioural Scientific orientation he will also hold the two Informational orientations but not the Psychotherapy orientation, permits clear and economical description, in terms of goal-orientation, of the lecturers in the Department.

The Second Study of Edinburgh Lecturers' Goals

The finding that lecturers in a single department of psychiatry differed among themselves in an ordered sequence about their approach to undergraduate teaching stimulated a

further/

further exploration. (Walton and Drewery, 1966) It was based on the opinions about teaching which had been obtained from lecturers in the first enquiry. Sixty-eight separate statements were presented in a questionnaire posted to each member of the departmental staff, with the request to indicate acceptance or rejection for each of the items.

At the time of the study there were 29 lecturers listed in the Department. Twenty-six replied to the questionnaire. Fourteen held university appointments; 12 were honorary lecturers who held National Health Service appointments in associated psychiatric hospitals. Twenty-one were psychiatrists. Five of the lecturers were clinical psychologists, four holding university appointments and one a National Health Service appointment. The degree of emphasis given by each lecturer to the four goal-orientations defined in the first enquiry was assessed, and then the pedagogic attitudes associated with each of the orientations was clarified.

i. Lecturers who had as their sole teaching objective the Systematic Clinical goal, were also characterized by (a) an aim to influence good medical students to choose psychiatry as a career; (b) a strong organic attitude to psychiatry.

ii. Lecturers with a Psychodynamic information goal, who stress knowledge about personality development and personal interactions, are characterized by: (a) wanting to foster

self-/

self-knowledge in students; (b) wanting to change professional attitudes of students; (c) advocating that psychotherapeutic techniques should be taught.

iii. Behavioural Science teaching is advocated by university lecturers; clinical teachers holding National Health Service appointments are relatively opposed to teaching students about psychology, medical sociology, epidemiology or other behavioural sciences.

iv. Teaching about psychotherapeutic techniques is advocated by those lecturers who also lay stress on the relationship between student and teacher.

In addition to extending understanding about pedagogic attitudes accompanying particular goal orientations, the second enquiry also provided other knowledge about discrepancies in outlook among the lecturers.

Lecturers who wanted students to manage patients for themselves under supervision from teachers also emphasized that small group teaching is required, and that one continuing tutor is necessary. Lecturers who most favoured small group teaching advocated in addition that teaching should foster students' self-knowledge; that instruction should be provided about the patient's social environment; and that the patient should be viewed in his family context. Most lecturers urged that any

additional/

additional time becoming available for psychiatric teaching should be used to enable students to interview patients for themselves.

How lecturers considered students should be evaluated at the end of their psychiatric training was also explored. Of the 26 lecturers, 22 held that medical students should have a professional qualifying examination in psychiatry. At Edinburgh this has long been so, and the teachers clearly value the provision.

The part of the examination regarded as most useful was the clinical examination of psychiatric patients (20 lecturers). Next in favour was the oral examination, but it was considered an essential part of the professional examination by only 15 teachers. Less than half (12 lecturers) advocated the use of an objective (multiple choice) examination. The relative coolness about this evaluative procedure was informative, because in that year an objective test officially became part of the professional examination. Surprisingly low value was placed on essay questions, only nine lecturers considering this a necessary part of the examination.

TRAINING OBJECTIVES OF PSYCHIATRISTS IN FIVE MEDICAL SCHOOLS

When lecturers are not in agreement about their objectives, the most realistic step is to recognize as a fact of university

life the variability of teachers. Their disagreement does not constitute a meaningless confusion, before which the student can only cower in confusion. It is possible to discover the main aims of lecturers, and to go further and identify in turn the position each lecturer occupies along all of these identifiable didactic dimensions.

A survey was done of the attitudes of lecturers in five Departments of Psychiatry, at Edinburgh, Aberdeen, Dundee, Glasgow and Sheffield, 77 teachers participating. Each completed a questionnaire of 64 items. Using a principal components analysis (Walton and Hope, 1966) the five main factors were extracted. The statistical procedure localised individuals on each of the five training dimensions; every lecturer held either a positive or a negative position, of greater or lesser intensity on all components, which can be viewed as the most prominent goals advocated by psychiatrists in their training of medical students (Appendix 3).

There are five important dimensions along each of which lecturers in psychiatry differ in respect of their teaching objectives:

1. <u>Enabling Students to Understand Patients and Themselves</u>: Either lecturers want to sensitize the student psychologically or they do not. When the effect of this primary training orientation is removed, the next most prominent teaching

aspiration/

aspiration of the lecturers becomes apparent.

2. Academic Psychiatric Instruction: Either teachers want academic-type psychiatry (behavioural sciences, research procedures, descriptive systematic psychiatry) taught or they do not.

3. Integrating Psychiatry with Medicine: The third bipolar orientation deals with the "psychosomatic" teaching approach. Either teachers believe in an integration of psychiatric training with general medicine, or they consider psychiatry a separate discipline with its own field and techniques.

4. Emphasis on Mild Mental Disorder: Either teachers want the mild psychiatric disorders taught to students, or they advocate training about psychoses.

5. The Holistic Approach: The fifth dimension, apparent when the effect of the other four is removed, contrasts teachers who want emotionally-ill patients separated off from psychiatric patients with constitutional factors in the illness. The former patients they consider students should learn to treat by psychotherapy. At the other end of the pole are teachers who oppose such psycho-physical differentiation in the training. They want both emotional and organic factors explored in every case, and such teachers tend to oppose training undergraduate medical students to do psychotherapy.

All 77 teachers held either a positive or a negative

position/

position, of greater or lesser intensity, on each of the five training dimensions. When a bold or a venerable teacher pontificates from his armchair about optimal medical student instruction (Werkman, 1966), proportion can be restored by placing him, on the evidence of his stated opinions, in his appropriate locus on each of these dimensions. The teacher of psychiatry in a medical school faces the further challenge of predicting what will be needed in a doctor practicing medicine not under present social conditions but one or two decades hence. How sensitive will he need to be to patients' emotional needs? Will the doctor of the close future require to know accumulated facts about specialized psychiatry? Will he be more competent professionally if he views his psychiatric skills as relevant in most of the cases he treats? Should he be taught primarily about psychoneuroses and mild personality disorders, or is it true that "the important goal teaching must accomplish is to enable the student to recognize and classify psychotic illness quickly and accurately", as one lecturer advocated? Physicians are not alone, it is revealing to discover, in regarding patients as either physically or as emotionally ill; many psychiatrists also keep in focus one sector at a time rather than both simultaneously.

The medical student being taught psychiatry is confronted by a range of teachers with varied objectives, expressing conflicting emphases. These can be specified explicitly, if

attitudes/

attitudes are ascertained, and by direct enquiry a particular lecturer's orientation can be clarified. Training can be made more rational if university departments commit themselves to the attainment of agreed objectives in teaching medical students. Only then can the further step be taken, frank questioning whether the teaching methods employed are likely to achieve the expressed objectives. At Edinburgh many teachers, for example, wanted students evaluated throughout the training rather than merely in a terminal examination; but only a fifth seemed to recognize that to obtain such information groups of students had to be allocated to one continuing tutor who could get to know them.

Chapter 4

PERFORMANCE MEASURES

Examinations can be used as criteria of the amount students learned after the differing forms of psychiatric training, the student being evaluated by examination methods similar to those used in other medical subjects. The conventional professional psychiatry examination consists of three parts: essay questions, a clinical examination and an oral examination. An essay examination permits the student to convey his thought processes as well as his factual knowledge; the clinical test evaluates technical skills needed to examine a patient psychiatrically; the oral examination allows connections between related facts to be explored with the student.

The defects of examinations as a procedure for grading student achievement have been documented in a large literature on the unreliability of examiners (Starch, 1913; Eells, 1930; Hartog and Rhodes, 1935; Bull, 1956). Examiners use different standards of marking, and seldom make the necessary adjustment of correcting to a common mean the marks awarded by a set of examiners (Cox, 1966). Secondly, a group of examiners tend to use different ranges of marks, this dispersion also rarely subjected to subsequent adjustment to a common standard deviation. Thirdly, random error operates when examiners grade students.

The/

The harmful part played by examinations in education, quite apart from their inherent defects as measuring procedures, is also repeatedly brought to the attention of educators. Over eighty years ago several hundred professors and teachers banded together to sign a protest that education was being sacrificed to examination (The Nineteenth Century, 1888), by leading undergraduates to believe that examination success was the main aim of education.

Many educators protest vigorously about the examination shibboleth. "One of the biggest obstacles to improvement in the selection of students is the unreliability and uncertainty of university examinations, and the biggest obstacle to reform is the ignorance of the staffs of universities about the pitfalls that surround the examiner ...." (Dale, 1959).

Arguments are sometimes advanced to sustain those who have confidence in the validity of professional examinations, and who regard as the good students those who do well in examinations. The claim continues to be made that excellence in medical school examinations is an accurate predictor of later professional success. This belief was backed recently by noting what became of 889 Manchester graduates, 24 per cent of whom achieved distinction in one or more of their medical school examinations. Of those who obtained distinction in the pathology examination, 97 per cent subsequently became

consultants/

consultants in the National Health Service. Distinction in medicine predicted later specialist grade almost as well, 87 per cent of the students who excelled subsequently becoming consultants (Howitt, 1959).

Such demonstrations under-emphasize the facts of professional advancement. Attainment of consultant status and examination success follow on directly, the one after the other. The best posts in training hospitals go to the graduates who do well in professional examinations. There is little evidence to relate examination success with actual quality of professional work actually carried out in later practice. The investigation evaluating the competence of doctors who graduated from the North Carolina Medical School (Peterson et al., 1956) failed to show that the students who do best at medical school also turn out to be the good doctors. The professional ability of general practitioners was observed during their working day. Particularly for doctors over 35 years of age, good practice was unrelated to examination success at medical school. There have been other investigations to show it is unjustified to assume that students who do well at examinations will necessarily become good doctors (Richard et al., 1962; Price et al., 1964).

The same division as occurs among teachers is found when students themselves report whether their university work is hindered or facilitated by examinations. Among the fifth year

medical/

medical students participating in this investigation, just over half consider that the professional examinations in the course of their medical studies impeded their learning.

TABLE 4. 1. EFFECT OF EXAMINATIONS ON ACQUISITION OF KNOWLEDGE (YEARS A, B and C).

Do you believe that examinations stimulate one to acquire deeper knowledge of a subject?

	Number	Per Cent
Facilitate learning	191	47.8
Hinder learning	209	52.2
	400	100

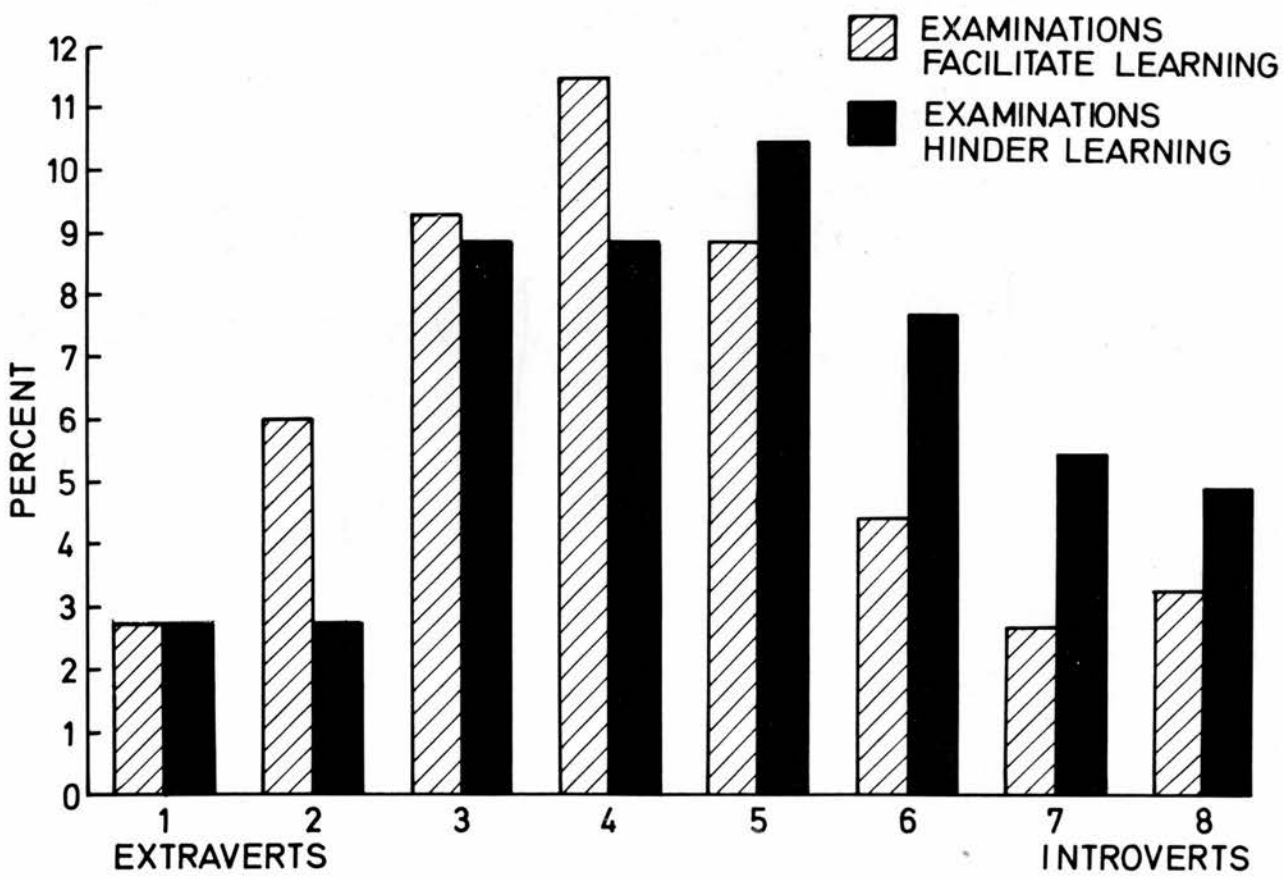
To their own reappraisal, therefore, of the overwhelming emphasis placed on examinations, university educators have also to give attention to the clear indication from over half the students that their knowledge is not furthered when they are required to take repeated examination hurdles. The rational approach to this dilemma is first to discover why some students approve of examinations, and then to analyze what teachers believe examinations contribute to higher education.

The most important evidence I could find from investigating students is that certain personality attributes determine which students are helped by examinations and which students find

them/

Figure 4·1

STUDENTS' ATTITUDE ABOUT EXAMINATIONS, BY EXTRAVERSION, FOR STUDENTS WHO WERE TO BE TAUGHT PSYCHIATRY BY LECTURES. (N = 182)



Tau = ·14 Z = 2·23 P = ·013

them obstructive.

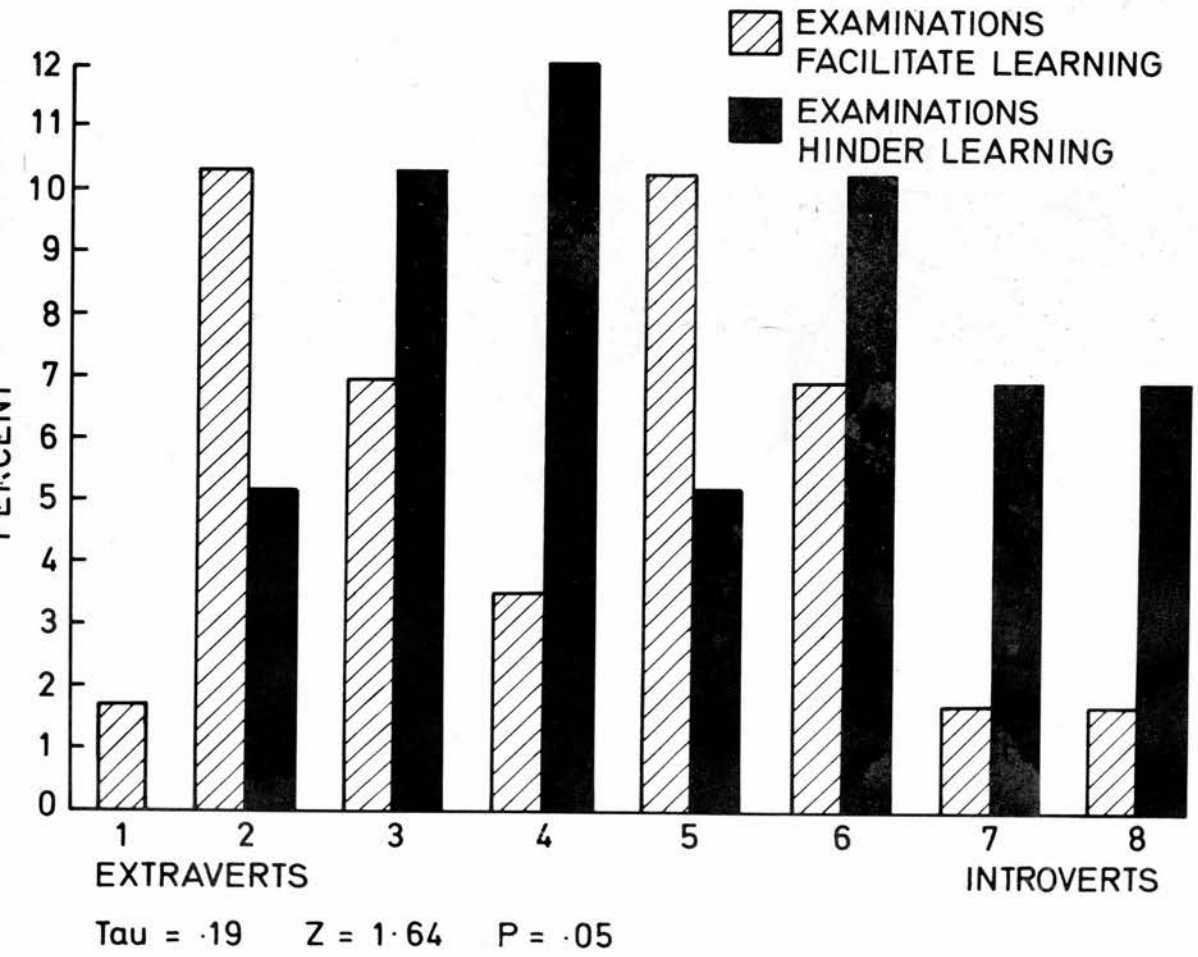
The Extraversion-introversion scale of the Maudsley Personality Inventory measures the degree of a person's sociability and also how impulsive he is (Eysenck, 1959; Eysenck and Eysenck, 1963). The introvert is more withdrawn socially, while the extravert is sociable and outgoing.

Students were divided into eight categories on the basis of their E-scores, 1 representing the extreme extraverts and 8 the extreme introverts. Figure 4.1 demonstrates the relationship between extraversion and approval of examinations, among the Year A and Year B students who were to be taught psychiatry by lectures. The more introverted a student, the greater his tendency to view his medical school examinations as an interference with his ability to learn. Extraverts, on the other hand, found examinations an aid to learning. A possible explanation is that for gregarious and impulsive people an examination can serve as an external form of control and direction. Introverts may require less the prospect of examinations as an inducement to study.

The same association between extraversion level and attitude towards examinations was also found among students of Years A and B taught by seminars. As Figure 4.2 shows, for extraverts examinations were more often regarded as a stimulus to learning, while for introverts they were a hindrance.

Figure 4·2

STUDENTS' ATTITUDE ABOUT EXAMINATIONS, BY EXTRAVERSION, FOR STUDENTS WHO WERE TO BE TAUGHT PSYCHIATRY BY SEMINARS.
(N = 55)



Tau = ·19 Z = 1·64 P = ·05

In the Year C class the same personality trend was found, although not to a statistically significant degree (Tau = .03, normal unit deviate = 0.48; N.S.).

Account must be taken of the fact that many educators are concerned about possible deleterious effects - quite apart from their inherent defects - of examinations on education, and half the students studied found them a hindrance to study. The students who approve of examinations appear to be those who have difficulty in concentrating on a task in hand, prone to be distracted by social activity or competing stimuli from their environment.

Given the reality of examinations as a feature of the medical school ethos, the students were asked before the course in psychiatry whether they favoured the provision after the teaching of a professional examination. Following the course in psychiatry they were again questioned whether their study of psychiatry had in fact been aided or hindered by the professional examination at the end of the training.

TABLE 4. 2. EXAMINATION NEED IN PSYCHIATRY

Do you favour that there will be a professional examination in psychiatry?

	Number	Per Cent
Yes	311	80
No	77	20
	388	100

Clearly the students in the three years covered by the investigation did not consider when they began their study of the subject that an exception should be made in the case of psychiatry. They wanted a professional examination to follow the training.

The psychiatric training did not change this view. After they experienced the teaching the greater majority still adhered to the view that there should be a professional examination in psychiatry. In this viewpoint they agreed with their lecturers: 85 per cent of the Department's teaching staff considered a professional examination essential.

TABLE 4. 3. EFFECT OF EXAMINATION ON STUDY

Has your study of psychiatry been aided or hindered by the professional examination at the end of it?

	Number	Per Cent
Aided	291	76.8
Hindered	88	23.2
	379	100

However, the quarter of the students who were handicapped by having to work towards a professional examination call for more detailed inspection. The fact emerges that for students who were provided with direct contact with teachers (i.e. those

who/

who were taught psychiatry by seminar teaching or combined teaching which included some seminars), there was no relation between examination attitude and extraversion level. But for the students who were not given direct teacher access, i.e. the students taught in the lecture classes, extraverts reported that the professional examination had helped their study, but the more introverted a student, the more he considered his study of psychiatry had been hampered by the prospect of an examination (Tau = .16; unit normal deviate = 2.39; p = .008). This finding suggests that further study is called for to determine the interaction between student-teacher ratio and the use of examinations as an impetus to learning. An extraverted student working on his own may need the prospect of an examination to keep him working, but it would seem that he can dispense with this stimulus when direct contact with teachers is provided for him. It may follow, also, that in schools with few teachers and many students, provision of professional examinations will be of help to extraverted students. The Victorians may have been right in their intuition that examinations are necessary to make students work, but only for students of certain personality type. Educators are now in a position to define more precisely and to measure objectively the advantages that used to be attributed to examinations in casual academic philosophizing: "The natural competitiveness of youth, observable in sports and games, was harnassed ingeniously to academic ends." (Montgomery, 1965, p.242)

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The Value of Examinations to Teachers:

Examinations can be used for three quite different purposes (Joint Committee, 1958) and need to be so constructed that the aim regarded as primary can be achieved:

i. Indicative examinations assess progress and attainment, determining as carefully as possible how much a student knows, so that he can be graded according to the amount of learning that has taken place.

ii. Diagnostic examinations reveal a student's strengths and weaknesses so that he can benefit from the "early warning system" (Nisbet and Welsh, 1966) and be provided by his teachers with remedial instruction.

iii. Prognostic examinations determine the capacity of students for future training.

Edinburgh teachers of psychiatry not being asked to specify narrowly the purposes they want the different sections of the professional examination to serve, favour clinical examinations most (80 per cent); oral examinations are next in favour (60 per cent); only a third approve strongly of essay questions in psychiatry (36 per cent). As measuring devices in medical education these types of test vary widely along four dimensions: practicality, objectivity, validity

and/

and reliability (Miller, 1961). These three measures of student performance have been used as indicative examinations in this investigation, in full realization of their grave limitations.

In addition, two special indicative examinations have been constructed and validated:

1. A multiple choice test of factual knowledge in psychiatry consisting of 78 items.

2. A film test of clinical skill in psychiatry.

In this investigation, therefore eight measures of student performance have been used (Table 4.4), account being taken of conventional grading procedures in addition to specially constructed tests of factual knowledge and clinical skills.

TABLE 4.4. EIGHT PERFORMANCE MEASURES

1. Overall Medical School Performance
2. Constancy of Examination Performance
3. Psychiatry Essay Marks
4. Psychiatry Clinical Examination Marks
5. Multiple Choice Test in Psychiatry
6. Total Psychiatry Score (Essay + Clinical + Oral)
7. (a) Filmed Interview Test
   (b) Verbal Film Test

1./

1. OVERALL MEDICAL SCHOOL PERFORMANCE was assessed by finding the total score achieved by each student in the 12 separate parts of the Second and Third Professional Examinations. The score was found by adding together his marks for Anatomy (written and oral), Physiology (written and oral), Pathology and Bacteriology (written and oral), Materia Medica and Therapeutics (written and oral), Forensic Medicine (written and oral) and Public Health (written and oral). The student's mean score in all these examinations was expressed as a percentage figure.

Scores of 403 students were sub-divided into eight categories: 1 = 73 to 64 per cent (28 students); 2 = 63 to 61 per cent (45 students); 3 = 60 to 59 per cent (62 students); 4 = 58 to 57 per cent (58 students); 5 = 56 to 55 per cent (61 students); 6 = 54 to 52 per cent (82 students); 7 = 51 to 49 per cent (42 students); 8 = 48 to 42 per cent (25 students).

A student's medical school performance is affected by a number of factors other than his intellectual ability. Two dimensions which have to be taken into account have to do with individual differences and with nationality.

Effect of Personality: The personality factor of Extraversion is related to overall medical school performance in examinations. In the Year A and B students (Table 4.5) the association between

Introversion/

Introversion and good overall examination performance on one hand, and Extraversion and poor overall examination performance on the other hand, was significant statistically. Students' scores on both the performance measure and personality measure are shown ranked in four categories (although as stated above, for more detailed correlations to be mentioned later, eight categories were utilized). Cut-off points were at the mean, and ½ S.D. above and below the mean.

TABLE 4. 5. RELATION BETWEEN OVERALL MEDICAL SCHOOL PERFORMANCE AND EXTRAVERSION, (YEARS A AND B).

Medical School rformance	Extraverts		Introverts		Number of Students
	Extreme	Above Mean	Below Mean	Extreme	
od	1.3	3.8	6.3	3.8	36
ove mean	9.6	12.6	14.2	5.0	99
low mean	6.7	11.7	6.3	6.7	75
or	2.9	5.4	2.9	0.8	29
mber of udents	49	80	71	39	239

Tau = -.12; unit normal deviate = -2.27; p = .012.

There was also an association in the Year A and B students between overall medical school performance and another personality dimension studied, Thinking-Introversion (Center for the Study of Higher Education, 1962). This scale studied a student's degree of reflectiveness. Thinking-introverts have a liking for abstract ideas, while thinking-extraverts show preference

for/

for ideas with practical application. Again sub-dividing both the performance and the personality variables into four ranks (Table 4.6), thinking-introversion correlated with good overall medical school performance, while thinking-extraversion was associated with relatively poor overall examination performance.

TABLE 4. 6. RELATION BETWEEN OVERALL MEDICAL SCHOOL PERFORMANCE AND THINKING-INTROVERSION (YEARS A AND B).

Medical School rformance	Thinking-introverts		Thinking-extraverts		Number of Students
	Extreme	Above Mean	Below Mean	Extreme	
od	3.3	6.7	4.2	0.8	36
ove Mean	7.1	14.6	14.6	5.0	99
low Mean	5.4	10.0	10.0	5.9	75
or	0.8	4.2	4.2	2.9	29
mber of udents	40	85	79	35	239

Tau = .13; unit normal deviate = 2.41; p = .008.

Personality factors, therefore, quite apart from cognitive ability, influence examination performance. The personality type among students who do best are those who are introverted (i.e. not socially outgoing or impulsive) and those who are reflective.

Effect/

Effect of Nationality on Overall Medical School Examination Performance: Nationality, also, must be taken into account when interpreting a student's overall medical school performance. Scots students did best at their studies, English students were in the middle rank and students from overseas did most poorly (Figure 4.3).

When students are ranked in four categories (good = more than ½ S.D. above mean; above mean; below mean; poor = more than ½ S.D. below mean), Scots students are significantly more often in the better performance categories and overseas students in the poorer categories, English and Welsh students in the intermediate position.

2. VARIABILITY is a feature of the examination performance of some students. This is a tendency to fluctuate considerably in achievement. Students were characterized as variable when there was a discrepancy of 30 per cent or more between their highest and lowest examination marks. Constant students were those who never fluctuated to this extent, their results remaining more stable in level.

Students who achieve high medical school performance scores are constant in the level of their examination results. Inconsistency in examination standard, much better performance at some times than at other times is a feature of the student who is a generally poor medical school performer. The relationship between good examination performance and constancy is significant statistically (Tau = 0.24; unit standard deviate = 2.39; p = .008).

Again, the two personality factors found associated with overall medical school performance have a demonstrable influence on examination constancy. Extraverted students in Years A and B

are/

are more variable than introverts (Table 4.7).

TABLE 4. 7. CONSTANCY IN EXAMINATIONS, BY EXTRAVERSION, FOR YEARS A AND B.

	Per cent				
	Extraverts		Introverts		Number of Students
	Extreme	Above average	Below average	Extreme	
astant	13.7	26.2	24.1	12.9	185
iable	7.1	7.1	5.4	3.3	55
mber of idents	50	80	71	39	240

Tau = -.09; unit normal deviate = -1.68; p = .046.

As might be predicted, the more socially outgoing and impulsive a student, the more likely is his performance to fluctuate between one examination and another.

However, the association between Constancy and Thinking-introversion, relative preference for reflection rather than for action, is a negative one. As Table 4.8 shows, the students who are extraverted in their mode of thinking, preferring ideas which have practical application, tend to be constant examination performers. It is the reflective student, with a preference for abstract ideas, who is likely to do much more badly at some subjects than at others. It may well be that the reflective student works well at the subjects that interest him, and less industriously at those which do not stimulate him to study.

TABLE 4. 8. CONSTANCY IN EXAMINATIONS, BY THINKING-INTROVERSION, FOR YEARS A AND B.

Per cent

	Thinking-introverts		Thinking-extraverts		Number of Students
	Extreme	Above average	Below average	Extreme	
nstant	12.5	25.4	26.7	12.5	185
riable	4.2	10.4	6.2	2.1	55
mber of udents	40	86	79	35	240

Tau = -.10; unit normal deviate = -1.69; p = .045.

3. THE PROFESSIONAL EXAMINATION IN PSYCHIATRY was given separate attention. This score consisted of a student's total marks in the Essay, Clinical and Oral parts of the examination.

The composite psychiatric performance measure was found very closely related to students' overall medical school performance. If a student customarily does well in professional examinations he will do well in psychiatry also; if he is a poor performer in other medical subjects, he will do badly at psychiatry as well. Table 4.9 shows the associations between general medical ability and degree of success in the professional psychiatry examination for students in Years A and B, both scores ranked in four categories.

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TABLE 4. 9. RELATION BETWEEN OVERALL MEDICAL EXAMINATION PERFORMANCE AND SCORES IN PROFESSIONAL PSYCHIATRY EXAMINATION, YEARS A AND B.

Per cent

Professional Psychiatry Examination	Overall Medical School Performance				Number of Students
	Good	Above mean	Below mean	Poor	
Good	9.2	12.1	2.8	.4	57
Above mean	2.9	13.7	6.7	1.2	59
Below mean	2.5	10.0	8.7	3.3	59
Poor	.8	5.4	13.7	7.1	65
Number of Students	37	99	75	29	240

Tau = .45; unit normal deviate = 8.26; p = very highly significant.

The correlation between a student's performance in the psychiatry examination and his overall medical school examination performance is so similar that the psychiatry examination appears simply to be measuring common abilities tested repeatedly by the other professional examinations. A factor analysis was performed of all eight examination performance measures discussed in this Chapter (Walton and Hope, 1965), and the chief component to emerge, accounting for 31 per cent of the variance, was a factor of general ability, in which all examination performance measures correlated together.

In/

In the United States fourteen separate measures of medical school achievement were analyzed (Schumacher, 1964), and revealed that "the majority of methods used to assess student accomplishment measure a single dimension which might be called 'general knowledge'". There can be no opposition to the charge that most medical educators have little idea how to construct examinations that possess subject and goal validity, i.e. which set out to evaluate more than a student's basic cognitive ability.

What is called for are serious efforts to describe the separate components to be discerned in the work of students who perform well. Such a systematic study of "critical incidents", making possible a behavioural description of adequate performance has been carried out by the U.S. National Board of Medical Examiners, to obtain a basis for evaluating general medical competence (Hubbard, 1960).

The teachers of psychiatry in five medical schools were studied to discover what they considered should be taught to undergraduate medical students; the successfully-taught student would then show the attributes reflecting their teachers' objectives (Appendix 3). Five chief training objectives of psychiatrists as medical school teachers have been specified, and the position an individual teacher takes on each of the goals can be charted precisely. Such knowledge is a preliminary to the construction of assessment procedures specific for each

of/

of the objectives that psychiatry training for undergraduate medical students sets out to achieve.

Lacking such definition of critical knowledge and the techniques for imparting it, students being evaluated need to be studied to find out what knowledge they gained from a course of instruction, how adequately they learned the relevant clinical skills, and whether their professional attitudes were altered in the appropriate direction.

4. THE PSYCHIATRY ESSAY EXAMINATION: Only a third of Edinburgh teachers pressed for the use of an essay examination. One insisted that only essay questions enable a student to express creative ideas and convey his breadth of view.

Another lecturer, a psychologist highly experienced in selective and evaluative test procedures, in denying that essays permit evaluation which is not possible through other test procedures, points out that oral, objective and essay questions are to some extent interchangeable.

Table 4.10 shows that the Essay Examination was less highly correlated with medical examination performance in general than was the objective test in psychiatry. But it ranked students closer to their performance on this general measure than did the clinical examination.

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TABLE 4. 10. RELATION BETWEEN STUDENTS' OVERALL MEDICAL SCHOOL SUCCESS AND THEIR PERFORMANCE IN THE VARIOUS TESTS OF PSYCHIATRIC ABILITY (YEARS A AND B).

	Relationship with Overall Medical School Examination Performance		
	Tau	Unit Standard Deviate	p
→fessional Examination in Psychiatry	0.45	8.26	Very highly significant
.tiple Choice Test in Psychiatry	0.40	7.18	Very highly significant
→ay Examination in Psychiatry	0.29	5.31	.00000005
.nical Examination in Psychiatry	0.23	4.23	.00001
.m Test of Clinical Skill	0.17	2.97	.002
.m Test, Verbal Form	0.14	2.63	.004

Students were given three topics from which they had to select two. Scores were expressed out of 200, and ranked in eight categories.

5. THE CLINICAL EXAMINATION IN PSYCHIATRY was conducted by assigning to the candidate a patient whom he examined, and about whom he was then questioned by two examiners. They completed a rating sheet (Appendix 4) after examining the student. Scores were expressed out of 50, and students were ranked in eight categories.

6./

6. MULTIPLE CHOICE TEST IN PSYCHIATRY: To obtain a more direct estimate of students' factual knowledge, a multiple choice examination consisting of 78 objective items was constructed. This test of factual knowledge was taken by all students, at the time of the professional examination in Psychiatry in each year. It is a reliable measure of factual information, the technique for constructing, scoring and item-analysis of multiple choice examinations being highly developed.

The content of the psychiatry course was proportionally represented in the items of the examination. Systematic psychiatry provided content for 61 per cent of the items (organic psychiatric syndromes, 20 per cent; functional psychoses, 14 per cent; psychoneuroses and personality disorders, 27 per cent). The psychological theories of emotional development and disorder were dealt with in 13 per cent of items, and the remaining 26 per cent assessed students' knowledge of psychological test procedures, social and forensic psychiatry, mental deficiency and the history of psychiatry.

Six different types of question were set. Item analysis was carried out during the two preceding years, satisfactory items (one which correlated with the whole test) being retained and unsatisfactory ones replaced (Walton and Drewery, 1966).

Scots students did best in the objective test, English

students/

students performing less well and overseas students worst (Tau = .17; unit normal deviate = 2.63; p = .004). Admission procedures would have to be explored to exclude a possible explanation for the finding. The less able English students might have been unsuccessful in their application to schools in England and as a second choice have come to Edinburgh. (As shown above, Multiple Choice test performance is correlationally associated with overall medical school performance, and appears a measure of general examination ability). Students from overseas may have language problems impairing their performance. These important ambiguities need to be investigated in their own right, to determine the influence of such factors as selective admission and language variation in performance level in different medical schools. It is already established that United States Medical Schools differ widely in the intellectual level of the student body they attract (Klinger and Gee, 1959).

Raw scores were used and ranked in eight categories.

7. THE INTERVIEW FILM TEST: Motion picture films were made of first interviews with psychiatric patients to permit standardized evaluation of each student's accuracy of observation and ability to draw conclusions from clinical data.

After witnessing the pathology elicited from the patient during the interview, students were set problems of two types about the clinical phenomena they had seen:

(a)/

(a) The Film Interview Test consisted of a series of items in multiple choice form. From a list of pre-worded answers the student had to select the correct response in each item to describe a particular symptom or problematic aspect in the interview.

(b) Verbal Film Interview Test: Another part of the test asked open-ended questions, the student himself having to provide the wording of his answers. That the Test evaluated students in line with their rating in the clinical examination was shown by comparing students' scores on the two tests. Among the Year A students taught by lectures, for example, a positive relationship was found between the conventional clinical examination and the Verbal Film Test (Tau = .26; unit normal deviate = 2.81; p = .002).

Students' scores in each of the Film Tests were ranked in eight categories.

The eight measures set out in this Chapter, their defects and ambiguities kept in mind, were used as criteria to evaluate the performance of students taught by the different teaching methods.

Chapter 5

ATTITUDES OF MEDICAL STUDENTS

Two questionnaires were filled in by each student, one of 42 items before the teaching, and a second consisting of 58 items after the course had been taught. Seventeen of the items in the first questionnaire were repeated in the second, to evaluate changes that the teaching could be expected to produce.

TABLE 5. 1. ADVISING PATIENTS, BEFORE AND AFTER PSYCHIATRY COURSE, YEARS A, B AND C.

Would you advise patients you see in the wards about their personal and emotional problems?

	Before Course		After Course	
	Number	Per cent	Number	Per cent
Yes	249	66	219	56
No	127	34	174	44
	376	100	393	100

In the example given, the first change to be remarked is that over 20 students did not respond to the question before the course, while only a few failed to commit themselves after

the/

the teaching. Second, the initial assumption from the finding is that the teaching had a negative effect, divesting 10 per cent of students of their readiness to involve themselves in patients' problems. However, reflection shows that the shift is more complicated. Psychiatry instruction may be regarded as successful if advice is provided more circumspectly to distressed patients, and with greater recognition of its shortcomings.

In this investigation "attitude" has been taken to mean a person's tendency to evaluate a belief or an activity in a certain way. Attitudes have been measured by eliciting from students their responses to a series of statements about professional activities, their own needs and beliefs, and their reactions to the psychiatry training. Some statements were worded to convey a positive attitude, and the student either endorsed the item or declared it false if he disagreed. Other items were worded negatively. The majority of the attitude items given to students before the psychiatry training were written in a dichotomized true-false form.

Some items were written to permit responses of a wider range of intensity. When psychiatric career inclination was studied following the instruction, the item presented students with four intensities of response, a mild and an emphatic positive response, and a mild and an emphatic negative response.

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TABLE 5. 2. PSYCHIATRIC CAREER CHOICE, AFTER TRAINING, YEARS A, B AND C.

After your experience of this course, would you consider a career in psychiatry for yourself?

	Number	Per cent
Yes, definitely	15	4
Psychiatry is one of the specialities I would consider	145	36
I do not, on the whole, want to do psychiatry	179	45
No, definitely	60	15
	399	100

Some items were written to elicit evaluations of the teaching from students, permitting them to choose between seven degrees of satisfaction-dissatisfaction when making the response. An example is the item asking students to rate the quality of their training about skills in carrying out a psychiatric examination, Table 5.3 showing what proportions selected the different options.

Table 5. 3. /

TABLE 5. 3. SKILL ACQUIRED IN CARRYING OUT A PSYCHIATRIC EXAMINATION; YEARS A, B AND C.

Rate the teaching you received about skill in carrying out a psychiatric examination, selecting the relevant number from this scale.

		Number	Per cent
1.	Extremely poor	38	9.5
2.	Very poor	65	16
3.	Poor	108	27
4.	Average	67	17
5.	Good	70	18
6.	Very good	44	11
7.	Extremely good	6	1.5
		398	100

The possibility had to be kept in mind that, in spite of assurances that responses would be disclosed to teaching staff only in general figures for categories of students, and notwithstanding attention to the wording of items (Payne, 1951; Hyman, 1955), students might answer evasively, wanting to provide the responses they thought likely to please their teachers. Their frank and often highly critical spontaneous comments on the questionnaire sheets made that seem unlikely, but further control was sought.

i./

i. Repeating Attitude Items in Different Wording: A number of questions were repeated in somewhat different form to check that valid responses were being obtained. By running one question against another which tested a different but parallel attitude further checks could be made that students were showing expected consistencies in their replies. For example in an earlier study (Walton et al., 1963) two of these questions were tested in a study of a class of graduating medical students. Table 5.4 shows how the psychiatric career choice item breaks when compared with students' declared psychological or somatic orientation.

TABLE 5. 4. GRADUATING MEDICAL STUDENTS, PSYCHIATRIC CAREER CHOICE BY INTEREST IN PSYCHOLOGICAL FACTORS IN ILLNESS.

Would you consider a career in psychiatry?

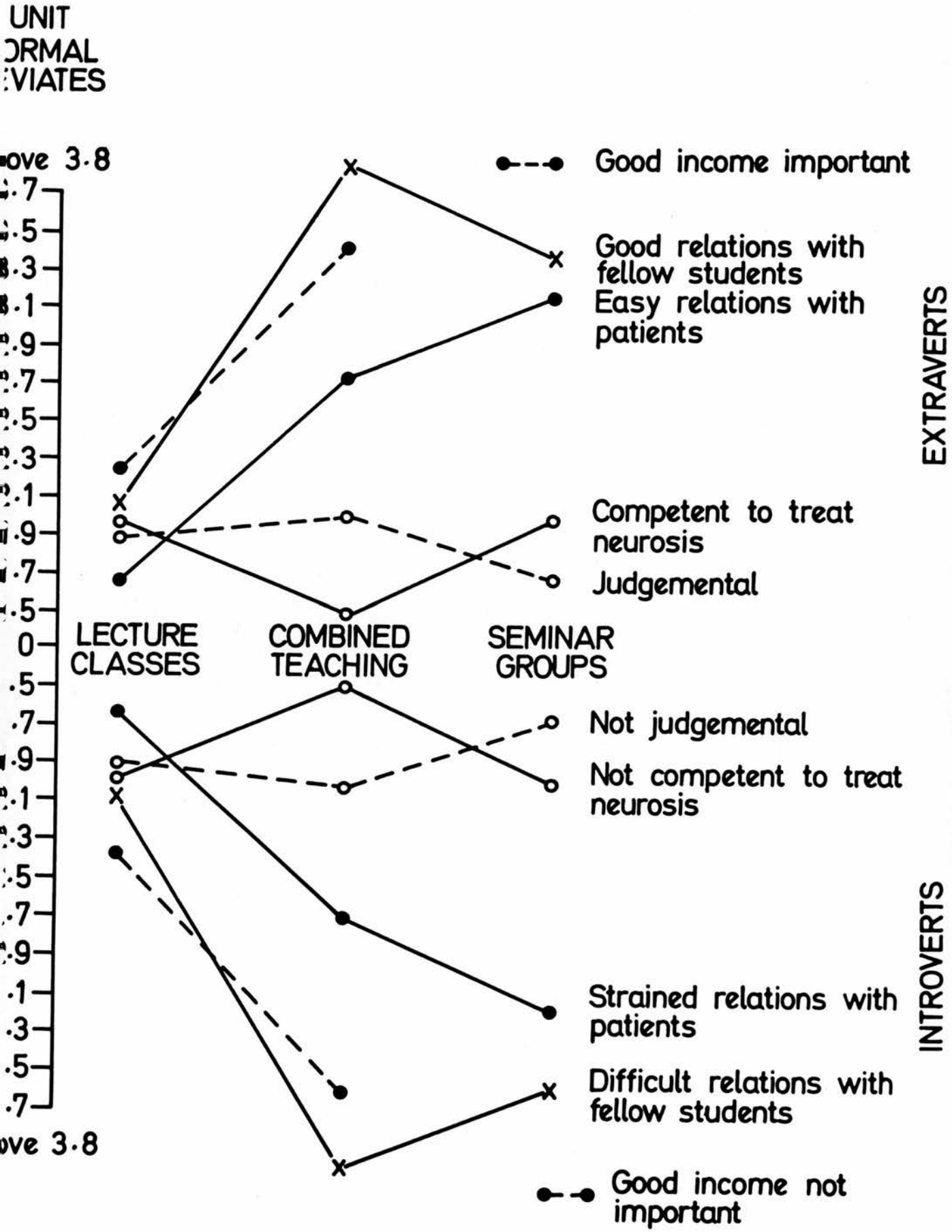
	Number	Per cent: More interested in somatic factors	Per cent: Equally interested in psychological factors
Yes, definitely	10	0	100
Psychiatry is one of the specialities I would consider	36	22	78
I do not, on the whole, want to do psychiatry	34	74	26
No, definitely	26	85	15

There is a highly significant relationship between somatic orientation and negative attitude to psychiatry (Tau = .56, p = .000000001), as is to be expected, because the behavioural expression implied in the career choice item logically should be congruent with responses to the professional orientation question. By this approach one item can be tested against another, in the present example one mainly cognitive and emotional in content against another mainly inquiring about future professional action.

ii. Relation between an Attitude Variable and Personality Tests Measuring the Same Tendency: Among these fifth year students, as can be demonstrated for all the groups dealt with in this investigation, measure of a student's degree of Extraversion is predictably associated with a number of attitudes (Figure 5. 1.). Two of these will be referred to again later in this chapter, having strained relations with patients seen in the wards, and occasional difficulty in getting on with fellow-students. These two items correlate in the expected direction with extraversion levels, the students who have difficulty with patients and peers regularly testing as introverted. Both these attitudes are also significantly associated with students' anxiety level (Neuroticism scale scores).

iii./

EXTRAVERSION IN MEDICAL STUDENTS



iii. Testing Other Samples: In a parallel investigation, some of the attitude items were applied to a sample of experienced general practitioners attending postgraduate courses (Walton, 1966). The physical versus psychological orientation item was shown to correlate significantly with the personality trait of reflectiveness, but not with the capacity to tolerate ambiguous situations (a finding contrary to expectation). In the general practitioner sample there was a significant relationship between that attitude item and psychiatric career choice, as there had been in a graduating medical student class also (Walton et al., 1963).

ATTITUDES BEFORE INSTRUCTION

In the remainder of this Chapter a description will be given of students' attitudes before the psychiatry course, in Years A, B and C. Some items obtained no-response reactions from a few students, therefore the largest number of students answering any item numbered 399, while only 370 replied to a question asking whether they thought the coming course should be systematic (dealing with causes and symptoms of psychiatric disorder) or psychodynamic (dealing with psychological adjustment and how this affects relations between people).

Divisive Issues

The one question which divided the students exactly dealt with their attitude to psychiatry as a future career:

1. (a) I have at times given consideration to specialising in psychiatry. (Checked by 50 per cent)

   (b) I do not want to specialise in psychiatry. (Checked by 50 per cent)

The sample was also fairly equally divided when asked if they considered examinations facilitate learning in depth:

2. Do you believe that examinations stimulate one to acquire deeper knowledge of a subject? (52 per cent checked "No")

There was opposition between students about the relevance of moral statements as a component of the medical role:

3. Expression by the doctor of his concepts of right and wrong

   Is essential in the practice of medicine (Checked by 48 per cent)

   Does not have a place in the practice of medicine (Checked by 52 per cent).

The question asking whether they viewed psychiatrists as particularly unusual elicited a divided response:

4. More eccentric people, it seems, find their way into psychiatry than into other branches of medicine. (52 per cent checked "No")

The students were asked whether they favoured treating psychiatric patients over a period of time, or considered

relatively/

relatively brief treatment preferable, aiming to avoid development of dependency. They had no technical knowledge yet, and the question aimed to study the amount of change occurring in this and other professional attitudes before and after training:

5. Do you think patients with chronic personality difficulty should be offered treatment over a time? (Checked by 56 per cent)

   OR

   Do you view firm encouragement as preferable, so as to avoid fostering dependency? (Checked by 44 per cent)

One of the chief goals in teaching psychiatry to medical students, many teachers will insist, is to enable them to recognize the positive manifestations of major and minor illnesses, so that they do not imagine the diagnosis of these disorders is arrived at simply by excluding organic illness. Therefore, at the start of the course students were asked:

6. Do you think a diagnosis of neurosis may be made before all possible tests to rule out organic factors have been ordered? (58 per cent checked "No")

It can be shown, by correlating Neuroticism scale scores with responses to this item in Years A and B that the more anxious a student, the greater his readiness to diagnose non-organic illness positively following instruction in psychiatry (presumably because he is more able to empathize with psychiatric patients); stable students on the other hand favour diagnosis

by/

by exclusion (Tau = .12; unit normal deviate = 2.02; p = .02).

The final item dividing the fifth year classes in fairly equal portions was the one mentioned above which was previously tested on graduating students, and which has also been used in evaluation of somatic versus psychological orientation in experienced medical practitioners (Walton, 1966). The majority of the students are "psychologically" oriented as they begin their study of psychiatry:

7. (a) Psychological factors are important in illness, but I am more interested in organic factors. (Checked by 41 per cent)

   (b) Psychological factors are important in illness, and interest me as much as organic factors. (Checked by 59 per cent)

Good Discriminators

Ten items in the pre-training questionnaire divided the students somewhat less evenly, about a third taking a different position from the majority.

They could not at this stage base their opinion about desirable content of the training on knowledge about the subject (perhaps this lack of knowledge accounts for 29 students out of a possible 399 not selecting either option). The majority wanted systematic teaching about descriptive psychiatry.

It/

It is of interest that the students' expectation was in this direction, and not in a psychodynamic one:

8. A psychiatry course should concentrate mainly on:
   (a) The causes and symptoms of psychiatric disorder (Checked by 60½ per cent)
   (b) Psychological adjustment and how this affects relations between people (Checked by 39½ per cent).

A minority of students declared an especial interest in psychologically-disturbed patients:

9. How would you evaluate your interest in patients with prominent psychological aspects in their illness?
   Especially interested (Checked by 38 per cent)
   No more interested than in other patients (Checked by 61 per cent).

A similar number of students make it clear that they begin the course disinclined to have patients with major mental illness under their care in later professional work:

10. I would not want to undertake in my future practice the supervision or management of psychotic patients. (38 per cent checked "True")

The majority did not expect any particularly difficult problems to arise in the psychiatric aspects of their later professional work:

11./

11. Do you expect that it is going to be difficult for you to diagnose and formulate appropriate treatment in cases of psychiatric illness in your future practice? (36 per cent checked "yes")

A class of third year students studied previously had revealed considerable impetus towards helping patients with any emotional problems or marital difficulties they might disclose. The fifth year students were concerned initially with patients' problems:

12. Would you advise patients you see in the wards on their personal and emotional problems? (Only 34 per cent checked "No")

The effect of psychiatric teaching on this attitude was indicated at the start of this chapter.

Exactly a third of the students conveyed that they have some problems in their relations with fellow-students:

13. Do you think you are the sort of person who gets along easily with your fellow-students? (33 per cent replied "Sometimes not")

Asked about their responses to patients suffering from a series of non-organic disorders, only a third of the students reported that they react favourably to both patients who have imaginary complaints and those who have their own firm opinions about what ails them:

14./

14. Do you react favourably or unfavourably to self-diagnosing patients? (33 per cent checked "Favourably")

15. Do you react favourably or unfavourably to hypochondriacal patients? (32 per cent checked "Favourably")

A second item enquiring from students about their opinions regarding psychiatrists showed that only a minority considered that psychiatrists are insensitive to patients:

16. My present view of psychiatry is that insufficient regard is paid to patients' personal beliefs and values (e.g. religious). (32 per cent agreed with the statement)

Because psychiatric management of patients often calls for long-term clinical commitment, students were asked whether they preferred prolonged or brief associations with patients:

17. As a senior student, is your preference for
    (a) seeing a number of patients with a range of illnesses (Checked by 70 per cent)
    (b) seeing a few patients and following them over a time. (Checked by 30 per cent)

Issues Differentiating Under A Third of Students

The following items split a small sub-group from the main body of students:

18./

18. (a) In future practice, I expect much of my satisfaction will come from my contacts with people: 71 per cent.

(b) I expect much of my satisfaction to come from investigation of the causes of illness and effects of treatment techniques: 29 per cent.

19. I expect a psychiatry course to provide me with an increase in self-knowledge and understanding of my own personality. (28 per cent did not)

20. In my view, a psychiatric approach will contribute to the management of most patients seen in general practice. (27 per cent disagreed with the statement)

21. (a) I have easy relations with patients. (Checked by 78 per cent)

(b) I consider myself too strained with patients at times. (Checked by 22 per cent)

22. Would you consider that you have been given much opportunity of making personal contact with your teachers in the medical school? (22 per cent checked "Yes")

23. Do you react favourably or unfavourably to excessively critical patients? (22 per cent checked "Favourably")

Issues Splitting Off Under A Fifth

The following questions were not of much value in the subsequent investigation, because they were answered in one direction by

the/

the great majority of students.

24. Are you in favour of there being a professional examination in psychiatry? (20 per cent checked "No")

25. I am convinced of the direct relevance of psychiatry to the general practice of medicine. (19 per cent disagreed with the statement)

26. Do you think that teachers at this medical school are inclined to give students too much guidance or not enough guidance? (19 per cent checked "Too much guidance")

27. Do you react favourably or unfavourably to patients without serious organic complaints? (18 per cent checked "Unfavourably")

28. Do you think students are given enough part in the investigation and treatment of patients they see? (14 per cent checked "Yes")

29. (a) My primary interest in medicine is directly clinical, treating sick people. (Checked by 89 per cent)

(b) My primary interest is more in the scientific aspect of medicine (biochemistry, neurophysiology). (Checked by 11 per cent)

30. Psychiatric training is necessary if the doctor is to deal effectively not only with neurotics and psychotics, but with general patients as well. (8 per cent disagreed with this statement)

31./

31. I view the patient's "faith" in his doctor as an important therapeutic element in any treatment procedure. (4 per cent disagreed)

This question was the one evoking the most unanimous response among all those asked, in both the questionnaire before the course and in the longer questionnaire completed after the teaching. This item, taken in conjunction with the meagre science interest and the satisfaction expected in later work from contacts with people, conveys clearly that fifth year students on the point of beginning their study of psychiatry are clinical in their outlook and very strongly oriented towards patients as people.

Questionnaire responses can be used for two different purposes. In the first place, students' differing attitudes can be related to their personality attributes, to their levels of performance as measured by performance tests, and to their approval of the various aspects of the training. The model for this work was Sturges' work at Washburn College (Sturges, 1927): attitudes of classes were tested and changeability measured in relation to personality and certain courses of instruction. Experimental studies of attitude change following teaching courses were carried out soon afterwards (Binnewies, 1931; Gerberich and Jamison, 1934; Menefee, 1938). The first large-scale use of measurement of attitude change in medical students

was/

was the Cornell-Columbia project, but that had to be confined to a panel survey because of the medical school teachers' objection to experimental control through randomization of the students to different training procedures (Kendall, 1964).

The second value of the responses, emphasized in this Chapter, is the descriptive material they constitute. The students' self-reports provide information that would otherwise not be available. The questionnaire following the psychiatry course ascertained important facts e.g. how many students had personally examined a psychiatric patient. Both it and the first questionnaire got information about students' beliefs, preferences and prejudices.

Chapter 6

SEX DIFFERENCES IN ABILITY AND ATTITUDES OF MEDICAL STUDENTS

When measures of performance were discussed, attention was paid to the influence on achievement of two factors, personality and nationality. A third factor will now be considered, the sex of the student.

In British medical schools just under a quarter of the students are women (Jeffreys et al., 1965). From school to school there is a marked variation in the proportion of male to female students: at one school women make up 31 per cent of the student body, while another school only 16½ per cent were women (Brotherston et al., 1963).

Although schools vary greatly in the number of places offered to women, there are now sufficient women being trained medically to permit studies to be made of the effect of sex on professional abilities and attitudes. Schools admitting many women can evaluate the consequences of their liberal admission policy by investigating the ability of women students and their later competence as doctors. Moreover, now that women students have come to be such a large component of medical schools, the characteristics of a class can no longer be conveyed by generalising in terms of the abilities and attitudes of the men

students alone. If, in addition to their numerical importance, women students are found to be measurably different in ability, personality and professional attitude from men, they may have to be given more particular consideration in the planning of the curriculum and in the teaching methods used.

Method of Investigation

Two classes of fifth-year medical students at the University of Edinburgh have been studied. All students in the class participated in the research. This report deals with 241 students. From the total, 58 (24 per cent) had been chosen at random to be taught in small groups instead of by lectures. A quarter of the class were women.

TABLE 6. 1. RANDOM ALLOCATION TO TEACHING METHOD, BY SEX (YEARS A AND B)

	Per cent		Number
	Men	Women	
Lecture Classes	59	17	<183
Seminar Groups	17	7	58
Number	182	59	241

In the allocation of students to the two different methods of training, they became distributed as follows: a half were men taught by lectures, a fifth were men taught in seminar

groups/

groups, a fifth were women taught by lectures, and under a tenth were women taught in seminar groups (Table 6.1).

1. PROFESSIONAL ABILITY:

Women were found to be more competent than men at their medical studies. Competence was assessed by averaging students' performance in all the professional examinations. The mean Medical School Performance score for the class was determined. The good students were those with total scores ½ standard deviation above the mean; the second rank contained students with scores between the mean and ½ standard deviation above the mean. The less-than-average and the poor students are in the equivalent categories below the mean score.

TABLE 6. 2. MEDICAL SCHOOL PERFORMANCE, BY SEX OF STUDENT (YEARS A AND B).

	Per cent of class		Number
	Men	Women	
Good	9.6	5.8	37
Above average	28.3	12.9	99
Below average	26.2	5.0	75
Poor	11.2	0.8	29
Number	181	59	240

Chi squared = 13.80; d.f. 3; p = .003.
Tau = -0.22; standard deviational unit = 3.67; p = .0001.

The women are better students than men. They are more successful in overall medical performance, using examination success as the criterion of achievement. This is the usual standard by which ability is judged, but it does not necessarily follow that women medical students, who very likely are more highly selected, are the more intelligent. Their better performance may result from harder work. Another possibility is that girl students are favoured by their male examiners, without the presence of such bias being recognized (for the reliability of examiners in professional medical examinations is low).

An analysis of covariance confirmed that women were better overall medical school performers than men (Variance ratio = 4.85, $p < .05$). As Table 6.3 shows, their superiority derives mainly from the competence in professional examinations of the women in Year B, who were conspicuously high in Neuroticism (see page). In this total sample women were significantly more neurotic and significantly more introverted than the men.

TABLE 6. 3. OVERALL MEDICAL SCHOOL PERFORMANCE

Mean Scores of Students, by Sex and Year (N = 244)

	Men	Women	All
Year A	55.7	55.4	55.7
Year B	54.6	58.6	55.6
All	55.1	57.2	55.6

A second index of examination performance is Variability, the tendency of some students to perform erratically and do conspicuously worse at a particular examination than their usual level (scoring as big a difference as 30 per cent between their best and worst examination scores). On this criterion, no statistically significant difference was found between the sexes. However, with more elaborate statistical analysis this greater constancy of women in examinations is seen to be important. A principle components analysis of the students' performance in the various examinations yields a component which discloses a strong relationship between female sex and constancy, and between male sex and examination variability.

In a number of specialist tests of competence in psychiatry the women students were superior to the men. Table 6.4 demonstrates that the women performed significantly better than men in five out of seven performance measures of psychiatric competence. In the Overall Psychiatry Examination (the conventional combination of essay, clinical examination and oral scores) no difference was present. In the clinical examination men students in the two years achieved similar scores; but Year A women students did worse than men, while Year B women - higher in Neuroticism - did better than men. A combination of sex and of personality factors is operative in the standard students are judged to achieve when examining patients clinically.

Table /

TABLE 6. 4. PERFORMANCE MEASURES

Women superior in:

1. Medical School Performance (especially Year B women)
2. Psychiatry Essays
3. Multiple Choice Examination in Psychiatry
4. Film Interview Test
5. Verbal Film Test

Similar to men in:

1. Examination Constancy
2. Overall Psychiatric Examination

In the Clinical Psychiatry Examination

Men in Year A similar to Men in Year B

Women were worse than men in Year A, better than men in Year B.

2. RELATIONS WITH TEACHERS:

Measurable differences occur in the attitudes to their teachers of students of different sex. This can be detected in spite of the fact that, as a body, students are highly dissatisfied over the meagreness of their association with their teachers.

Asked whether they considered that they had been given opportunity for making personal contact with their teachers at medical school, four-fifths of the students said they had not. Women more often than men (but not to a significant extent)

said/

said that they did have personal contact with their teachers.

Women differed significantly from men in that they more often viewed the guidance given them by medical teachers as excessive, while men more often felt they received insufficient guidance (Table 6.5).

Before Course

TABLE 6. 5. STUDENTS' SATISFACTION WITH AMOUNT OF GUIDANCE GIVEN BY TEACHERS

	Per cent of class		Number
	Men	Women	
Too much	11	8	41
Not enough	68	13	173
Number	169	45	214

Chi squared = 15.98; p = .0002.

Women may be more self-sufficient and need less guidance or, again, they may get preferential treatment (which need not be a deliberate response of the teachers). Which explanation is to be preferred, a personality attribute of independence present to a greater degree in women than men students, or a differential response by the teachers, can only be settled by further exploration, investigating attitudes of teachers to students.

There is a sex difference also in respect of attitude to

examinations/

examinations (Table 6.6). A fifth of the students, before beginning their study of psychiatry, consider it a disadvantage that at the end of the course they have a professional examination to pass. Among the students who favour the examination, women predominate.

Before Course

TABLE 6. 6. RELATION BETWEEN SEX AND APPROVAL OF AN EXAMINATION IN PSYCHIATRY

	Per cent of class	
	Men	Women
Want exam	58	23
Do not want exam	17	2
Number	175	57

Chi squared = 7.02; p = .008.

This readiness to have their knowledge and technical skill assessed after their training suggests, whatever else is involved, that women students take their studies more seriously. Another difference between them and men students may also reflect this tendency (Table 6.7). While only a few students consider they are given enough direct clinical responsibility in the wards, those who are content with their responsibility for patient care are almost all men.+

+ It may be that these satisfied students in fact exerted themselves sufficiently to gain ward responsibility, and that such demanding students were almost always male.

Before Course

TABLE 6. 7. SATISFACTION OVER AMOUNT OF RESPONSIBILITY FOR PATIENTS IN THE WARD, BY SEX

	Per cent of class	
	Men	Women
Not enough responsibility	64	23
Enough	12	1
Number	180	59

Tau = .13; p = .02.

In their view of the psychiatry training before starting the course, men more often took the view that the subject was helpful when it came to the treatment of patients in general, while women were more specialist in their orientation, regarding the training as designed to equip future doctors to treat patients with psychiatric disorders.

Before Course

TABLE 6.8. VALUE OF PSYCHIATRIC INSTRUCTION FOR LATER PRACTICE, BY SEX

	Per cent of class	
	Men	Women
Useful in dealing with patients in general	73	22
Useful for treating psychotics and neurotics	2½	2½
Number	177	57

Tau = .14; p = .02.

The women also began their study of psychiatry more often regarding the doctor's concepts of right and wrong as irrelevant in the management of patients. Men, on the other hand, are more judgemental in outlook, the larger number regarding it as essential for the doctor to convey his own ethical standards to patients.

Before Course

TABLE 6. 9. HOW APPROPRIATE IS IT FOR A DOCTOR TO EXPRESS HIS OWN MORAL ATTITUDES TO PATIENTS?

	Per cent of class	
	Men	Women
Essential	39	8
No place for it	37	16
Number	171	55

Chi squared = 4.78; p = .03
Tau = .14; p = .014

3. ATTITUDES TO PATIENTS:

Most of these fifth year medical students say they are primarily interested in sick people (88 per cent) rather than in the opportunities provided in medical work for carrying out skilled techniques and exercising special skills or technical investigative procedures. Women tend to be more patient-centred, men more technically oriented (Table 6.10).

Before Course

TABLE 6. 10. SOURCE OF GREATER SATISFACTION IN LATER MEDICAL PRACTICE, BY SEX.

	Per cent of class	
	Men	Women
Contacts with people	52	19
Use of skilled techniques	24	5
Number	173	55

Tau = -.11; p = .05.

While women less often have a technical outlook, the evidence is that their greater need for personal involvement with patients does not imply an unprofessional approach. One of the goals in teaching psychiatry is to inform future doctors that disturbed people require not advice but treatment procedures, such as an opportunity to discuss their subjective conflicts. The psychiatry training does lead some advice-giving students to modify their approach. At the start, two-thirds favour advice-giving; after the training only half do. More women than men change their attitude, so that women end the training significantly more opposed than men to advice-giving (Table 6.11).

Table /

TABLE 6. 11. STUDENTS' ATTITUDE TOWARDS THE GIVING OF ADVICE TO PATIENTS, BY SEX

1. Before Course

		Per cent	
In favour	Men	49	N.S.
	Women	14	
Against	Men	27	
	Women	9	

2. After Course

		Per cent	
In favour	Men	41	Tau = .15; p = .01
	Women	8	
Against	Men	35	
	Women	15	

Among men students almost as many are more interested in the physical aspects of medicine (Table 6.12). The majority of women, on the other hand, are equally interested in the psychological and in the physical aspects of illness.

Table /

TABLE 6. 12. GENERAL CLINICAL ORIENTATION OF STUDENTS, BY SEX

1. Before Course

	Per cent of class	
	Men	Women
Organic	34	6
Psychological	42	17
Number	180	57

Tau = .16; p = .007

2. After Course

	Per cent of class	
	Men	Women
Organic	36	6
Psychological	40	17
Number	181	58

Tau = .17; p = .004

The psychiatry training has remarkably little effect on this general clinical orientation; women after the course are more psychologically-oriented than men, as they had been before the training.

After being taught psychiatry men are dissatisfied that they/

they were not taught more about drug and physical methods of treatment; women, in contrast, are satisfied with this area of the teaching. An interpretation of this finding is that men more often hope that physical agents of treatment can correct emotional disorders, while women do not entertain such hopes, recognizing that psychiatric illness calls also for other remedies (Table 6.13).

TABLE 6. 13. SATISFACTION WITH TEACHING GIVEN ABOUT PHYSICAL AND DRUG TREATMENTS

	Per cent of class	
	Men	Women
Extremely poor	1	½
Very poor	5	0
Poor	12	3
Average	35	10
Good	18	8
Very good	4	3
Extremely good	½	0
Number	180	59

Tau = .13; p = .01.

Certainly, the women students were much less sanguine that they had learnt more about their own psychological state from the psychiatry training. Men commonly considered that the instruction had increased their understanding of their own

personality/

personality (Table 6.14).

After Course

TABLE 6. 14. INCREASE IN SELF-KNOWLEDGE, BY SEX

	Per cent of class		
	Men	Women	All
None	9	8	45
Doubtful	29	9	39
Increase	37	8	16
Number	180	59	239

Tau = -0.17; p = .003

Women were not only more sceptical about gains in self-knowledge; they were also more inclined to be critical about the psychiatrists who taught the course. Their censorious attitude was apparent before they actually had experienced the training. They brought to their studies a relative disapproval of psychiatrists for paying insufficient regard to patients' values, such as their religious beliefs (Table 6.15). In both sexes, training did not modify students' judgements about psychiatrists' sensitivity to patients' personal feelings.

Table /

TABLE 6. 15. STUDENTS' ASSESSMENT OF CONCERN THAT PSYCHIATRISTS SHOW FOR PATIENTS' BELIEFS AND VALUES, BY SEX

1. Before Course

	Per cent of class	
	Men	Women
Sufficient	54	12
Not enough	22	11
Number	167	52

Chi squared = 6.67; p = .01

2. After Course

	Per cent of class	
	Men	Women
Sufficient	52	13½
Not enough	23½	11
Number	174	56

Tau = .12; p = .03.

The women students regarded themselves as particularly vulnerable in three among a number of trying clinical situations this group was asked to consider. Women students were understandably less confident that they could manage to cope

with/

with an intoxicated alcoholic patient (Tau = .16, p = .006). To a lesser extent they considered themselves likely to mismanage the situation when a patient with physical complaints had to be told there was no bodily basis for his symptoms (Tau = .13, p = .02). They were also more concerned than men that they would have difficulty from becoming excessively attached emotionally to patients (Tau = .12, p = .03).

Women medical students, therefore, recognize their greater vulnerability in certain aspects of practice. However, they are more prepared than men students to accept emotionally-ill patients in their later practice (Table 6.16). Among students in general, patients with major mental illness (psychosis) are viewed with most disfavour, neurotic patients are more acceptable, while organically-ill patients with superadded psychological disturbance are rarely rejected. Hardly any women would view such psychosomatic patients as outside their professional scope. Women also are significantly more accepting in their professional attitude to psychoneurotic patients.

Table /

After Course

TABLE 6. 16. ACCEPTANCE OF CLASSES OF PSYCHIATRIC PATIENTS IN LATER PRACTICE, BY SEX

	Psychotic			Psychoneurotic			Psychosomatic		
	Per cent		Number	Per cent		Number	Per cent		Number
	Men	Women		Men	Women		Men	Women	
treat	24	8	77	50	19	164	57	23	193
rably not	40	13	126	21	3	56	15	1	38
not treat	12	3	35	5	2	17	3	0	7
	N.S.			Tau=-0.11; p=.03			Tau=-0.24; p=.0002		

In other respects also women conveyed their more active interpretation of their medical responsibilities.

After the psychiatry course had been taught, students were asked to give their opinion whether they now considered that general practitioners should treat emotionally-ill patients. Men significantly often took the view that the doctor's function stops at recognition of the illness. Women students, on the other hand, more often committed themselves as responsible for the active treatment of such patients. (Table 6.17) Men students tended to view their role with psychiatric patients as a more passive one.

Table /

After Course

TABLE 6. 17. APPROPRIATE ROLE OF GENERAL PRACTITIONER IN DEALING WITH PSYCHIATRIC PATIENTS, BY SEX OF STUDENT

	Per cent of class	
	Men	Women
Diagnose only	26	5
Treat as well	49	19
Number	177	57

Tau = 0.12; p = .03

CONCLUSIONS

Among fifth year medical students, women are generally more competent at their studies than men. In the speciality of psychiatry they performed better in acquiring factual knowledge and also in tests of clinical skill. Women had higher Neuroticism; in addition, they were less extraverted, i.e. they were more withdrawn socially and less impulsive. They had less need for guidance from teachers than male students. While they were more censorious of the psychiatrists who taught them, they were less moralistic towards patients than the men students. They were less detached in their study of psychiatry, intending to give practical clinical expression to their knowledge. They more than the men consider it the doctor's responsibility actively to treat emotional disorder. At the

same/

same time, women are more concerned that they may experience difficulty by developing emotional attachments to patients.

Women are less technical in orientation. Men, however, are more prone to consider they gained in self-knowledge through their psychiatric instruction.

Women learn more about the limitations of advice-giving as a method for helping patients. They see the psychiatry course as a training for relieving specifically emotional disorders - men more often view the instruction as an aspect of their general medical competence. The impression is that the men are less implicated in the psychiatry training, and more inclined to view it as somewhat tangential to their later working lives.

Chapter 7

AN EXPERIMENTAL INVESTIGATION OF THE RELATIVE MERITS OF LECTURE TEACHING AND SEMINAR GROUP TEACHING

When available research into teaching methods was reviewed more than a decade ago (Wispe, 1953), the conclusion was reached that "the best teaching method for some students is not the best teaching method for all students". Wispe proposed a research model for evaluating teaching techniques in which the student's emotional-intellectual needs were treated as the independent variable; the teaching method used was regarded as the intervening variable, and the student's performance on a related test was regarded as the dependent variable.

In the previous chapters a number of factors were enumerated that have to be taken into account when formal lecture teaching and seminar teaching are compared. The teaching method is regarded as the independent variable, and effects measured after the training are regarded as the dependent variables. Nationality, sex of the student, year of intake (a selection variable) and personality attributes are all important, and are viewed as intervening variables.

This chapter will contrast the effects of lecture teaching and of seminar teaching. The belief is firmly expressed in some quarters that university students "are over lectured with the result that there is insufficient tutorial work ....

Furthermore/

Furthermore, if university education is not to become mass education ..... then it is imperative in all disciplines to plan for an extended use of tutorials or small group methods" (Schonell et al., 1962). The evidence for these pedagogic opinions is scattered.

For decades the hypothesis has been entertained that the group discussion method has more influence on behaviour than conventional lecture teaching. Jones (1923) found that students taught in discussion groups scored higher on immediate and delayed tests requiring them to reproduce material they had been taught. Bane (1925) found that this advantage applied only to delayed recall. Spence (1928), on the contrary, found that graduate students did better in immediate and delayed tests when taught by lectures. Husband, using examination grades as the criterion, also found that lectures were more effective (1949). Asch (1951) likewise found that lectures were better when examination results were used as the criterion, but small group teaching was more effective when measures of social and emotional adjustment were the criteria.

Students' preference for either teaching technique is likely to be qualified; in one study they were found to participate more in group discussions which they found more interesting and enjoyable, but they preferred directive classes for examination preparation (Wispe, 1955).

The/

The university and school setting is not the only place in which relative efficacy of lectures and group discussions have been tested. During the Second World War Lewin (1943, 1947) evaluated the relative influence of formal lectures and group discussions on housewives' attitudes about food, finding the latter more effective. In similar investigation (Radke and Klisurich, 1947), the group technique also emerged as more influential than lectures. However, Lewin rightly cautioned readers that the two groups of women in his investigation might have been differently motivated, those receiving the group discussions having been told in addition that a check would be made later to see if the desired changes had taken place; women instructed by lectures had not been given this information.

Evidence has long been available that education in itself does not reduce prejudices nor change attitudes significantly (Samelson, 1945). Acquisition of knowledge is distinct from behaviour change. An experiment which demonstrated this set out to alter supervisors' judgements about workmen's performance (Levine and Butler, 1952). The supervisors tended to overrate workmen in higher job grades and to underrate those in lower grades; the experiment tested whether lectures or group sessions influenced supervisors to drop the "halo effect" and consequently to rate the worker himself, not the grade of his job. Group discussion proved more effective in reducing

prejudiced/

prejudiced ratings than the formal lecture technique, which had practically no effect. The conclusion from these and similar studies was that resistance to change can be overcome by group discussion but not by formal lectures.

The general impression arising from the literature may be summarized. Factual knowledge in some studies is best taught by lectures, but in other studies students who were taught in discussion groups learned more factual knowledge. When emotional or social changes are at issue, when some bias has to be overcome or behaviour pattern altered, discussion groups are effective while lectures are not.

If this applies also to medical student teaching procedures, a definite change in students, perceptible to their teachers, may not be evident experimentally unless appropriate criteria are defined and appropriate measures devised. In an investigation of effects of a new psychiatry curriculum at Chicago, no measurable differences could be demonstrated although the improved general demeanour of students taught by the new method was evident to the teachers at the medical school. The only criteria used in the study were clinical tests devised by a central Examiners Office; no instrument was included to measure those areas in which, from the educational and psychological literature, students taught by seminar groups may be expected to differ from students taught by formal lectures (Aldrich and Bernhardt, 1963).

In/

In a further analysis of the Chicago investigation (Heine, 1962), the grades given to students by clinical instructors were compared with their scores on the Examinations office test. Correlations varied between .22 and -.26. The interpretation was that grades and the test were not measuring the same thing. Instructors' grades, based on seminar leaders' subjective evaluation of students' abilities, were held to measure non-cognitive aspects of psychiatric competence, in contrast to the Examinations office test which was now regarded as measuring mainly cognitive abilities.

In the present study attitude questionnaires have been constructed to take account of students' subjective reactions before and after training. The attitudes expressed after training are treated as dependent variables. So also are performance scores in the tests of psychiatric knowledge and the tests of clinical skill.

1. ALLOCATION OF STUDENTS TO THE TWO TRAINING METHODS

Using a table of random numbers, Edinburgh fifth year students were assigned by chance either to small group or to large class teaching for their psychiatry training. They had no choice in the form of teaching they received. No student in the first year objected to his chance allocation; in the second year one man insisted on a change, wanting to be removed from a small tutorial group and be allowed to have lectures

instead/

instead. No student failed to cooperate in performing the various tests and completing the inventories, except in the case of one woman student who asked to abstain from completing the personality tests. She completed her initial questionnaire form but left the personality test forms blank. When this was discussed with her she was forthright in her views.

> "I do not see why I should be asked personal questions. I sent the form back blank to register my disapproval. I did not mind answering the questions about the psychiatry teaching. I knew the personal questions were scientific, but I refuse to be questioned about myself. I don't want to sound unpleasant - I meant to include a letter when I returned the forms, only I forgot."

The tutor-taught students numbered 58, while 183 students were taught by lectures (Table 7.1). There were 182 men and 59 women. The randomization procedure assigned rather more women to seminar teaching in Year B than in Year A. In Year A there were two seminar groups and in Year B there were three, each with its own tutor who was the sole teacher throughout the course (with only the exception that two lectures were open to all students).

Table /

TABLE 7. 1. NUMBERS OF STUDENTS ALLOCATED TO TWO TRAINING METHODS, YEARS A AND B.

	Year A (N = 106)		Year B (N = 132)	
	Men	Women	Men	Women
Large Class	64	19	76	22
Small Group	20	3	21	13
Total	84	22	97	35
	Chi squared = 1.06; p = .30		Chi squared = 3.23; p = .07	

In only two items of the Intake Attitude Questionnaire did the lecture-taught classes differ from the seminar groups; the randomization was therefore satisfactory with regard to students' attitudes.

i. In Year A disproportionately more students anticipating difficulty in dealing with psychiatric cases in later practice were assigned to seminar teaching (Table 7.2).

TABLE 7. 2. DIFFICULTY ANTICIPATED WITH LATER PSYCHIATRIC WORK

Do you expect that you are going to find it difficult to diagnose and treat cases of psychiatric disorder in later practice?

	Year A	
	Large Class	Seminar Groups
No	23	10
Yes	54	9
Total	77	19

Tau = .19; p = .03.

ii. In Year B disproportionately more students who declared themselves as systematic in orientation went into the lecture class; more students who professed a psychodynamic orientation went into the seminar groups (Table 7.3).

TABLE 7. 3. SYSTEMATIC vs. PSYCHODYNAMIC ORIENTATION

A psychiatry course should concentrate mainly on:
(a) Causes and symptoms of psychiatric disorders
(b) Psychological adjustment and how this affects relations between people.

	Year B	
	Large Class	Small Group
(a) Systematic	59	15
(b) Psychodynamic	32	17
Total	91	32

Tau = .16; p = .04.

The students were also satisfactorily allocated in terms of the four personality attributes measured. These were Extraversion-introversion, Neuroticism, Complexity and Thinking-introversion. Statistical tests show that the lecture class students did not differ from students in seminar groups on these measures of sociability, anxiety, tolerance of ambiguity and reflectiveness.

2. TRAINING TECHNIQUES

In the lecture class a course of systematic lectures was given,

the/

the content indicated in Appendix 5. All lecture-taught students also had clinical demonstrations, at which patients were shown to the class. Students were free to find and examine psychiatric patients themselves, but no formal arrangements existed to allocate patients to students. A clinical demonstration is described in Appendix 6.

The tutors of the seminar groups were left free to structure their tutorials as they wished. They conferred together and tutorials I witnessed varied in the extent to which they were either teacher-centred or learner-centred (Thelen and Whitehall, 1949). Two tutorial sessions from among those witnessed are described in Appendix 7. The tutor-taught students could attend only two lectures, one on the biology of schizophrenia and another on mental defect.

The lecture-class students and the seminar-taught students had tuition extending over an equal time, 4½ hours per week for 10 weeks. From their spontaneous comments a number of students clearly thought the training too brief:

> "I found the course interesting but it was too short. Only now am I beginning to understand the terminology and another term would be invaluable."

> "At least two terms should be devoted to the teaching of psychological medicine."

3./

3. DIFFERENCES IN PERFORMANCE FOLLOWING THE TWO TEACHING METHODS

The randomization procedure effectively allocated students to either teaching method in respect of Overall Medical School Performance.

Students in Years A and B were ranked in eight categories, according to their scores in all the other professional examinations except psychiatry. Rank 1 contained students with average examination scores from 73 to 64 per cent; rank 2, 63 - 61 per cent; rank 3, 60 - 59 per cent; rank 4, 58 - 57 per cent; rank 5, 56 - 51 per cent; rank 6, 54 - 52 per cent; rank 7, 51 - 49 per cent; rank 8, 48 - 42 per cent. Table 7.4 shows that for both Years A and B the lecture classes and the seminar groups did not differ in the proportions of good and poor students they contained.

TABLE 7.4. MEDICAL SCHOOL PERFORMANCE, RANKED.

Medical School Performance		Year A		Year B	
		Lecture Class	Seminar Groups	Lecture Class	Seminar Groups
Rank	1	9	1	10	0
	2	5	5	10	5
	3	7	4	16	8
	4	17	1	10	6
	5	14	4	11	6
	6	18	4	18	4
	7	13	1	11	3
	8	1	2	10	3
Total		84	22	96	35

Tau=-0.06; v.n.d.=-.75; N.S. Tau=-0.02; v.n.d.=-.25; N.S.

The students after their respective psychiatry courses were evaluated by means of six measures (Table 7.5). For both years, those taught in lecture classes performed similarly to those taught in seminar groups as measured by all six of the tests. On the performance criteria, therefore, no difference could be detected between students taught by the two training methods.

TABLE 7.5. PERFORMANCE MEASURES, BY YEAR, COMPARING LECTURE TEACHING WITH SEMINAR TEACHING

	Year A		Year B	
	Tau	Unit Normal Deviate	Tau	Unit Normal Deviate
chiatry Essay Score	.09	1.06	-.05	- .69
tiple Choice Test Score	-.05	- .59	.03	.39
chiatry Clinical Examination Score	-.06	- .75	.02	.31
chiatry Total Examination Score	-.01	- .16	-.02	- .24
m Interview Test (Revised)	.08	.96	-.09	-1.1
bal Film Test	-.13	-1.50	.03	.33

It is of interest to inspect the correlations between the test scores and the two methods of teaching, although none of the relationships are statistically significant.

The Year A lecture classes wrote better Essays, and the

Year/

Year B lecture classes wrote worse Essays than their seminar-taught fellows. The lecture class did less well than tutor-taught students in the Multiple Choice Test in Year A, and better in Year B. The two test procedures are thus discrepant in their correlations, by year and by teaching method.

The Total Psychiatry Score (essay plus clinical examination plus oral scores) was lower in the lecture class than in the seminar groups in both years.

The Clinical Psychiatry Score was in the same direction as the Verbal Film Test score in both Years. However, the Film Interview Test sorted students in a different way from their ranking on the clinical examination. On this evidence, the Verbal Film Test can be viewed as congruent with the clinical examination (and the multiple choice test of factual knowledge), but the Film Interview Test may be measuring a different component, possibly clinical skills. The present evidence is that the tests used show no difference in factual knowledge or in clinical skills between students taught by lectures and those taught in seminar groups.

4. DIFFERENT ATTITUDES FOUND AFTER TRAINING, DEPENDENT ON TEACHING METHOD

Statistical Analysis: In the second questionnaire given at the end of the training, students were asked 58 questions. The

statistical/

statistical evaluation (Rees, 1963) of such a large number of variables has to be interpreted with caution. When many tests of correlations are performed, there is one chance in 20 (at above the .05 level) that statistically significant results have occurred by chance. To detect which results were chance findings, the Year A class and the Year B class were analyzed separately. Only findings statistically significant in Year A and then replicated in Year B were accepted as significant.

The many differences found in the attitudes of students, according to the method used to teach them, will now be enumerated.

4. 1. TEACHER-STUDENT CONTACT: Lecture-taught students were conspicuously more dissatisfied with their opportunities for contact with their teachers (Table 7.6).

TABLE 7. 6. SATISFACTION WITH TEACHER CONTACT

Have you been able to make adequate contact with your psychiatric teachers?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Yes	8	17	11	30
No	76	5	85	5

Tau = -.65;
u.n.d. = -6.63;
p is very highly significant

Tau = -.71;
u.n.d. = -8.08;
p is very highly significant.

Students' perception of their teachers also varied with the training technique used. Those taught in seminar groups judged their teachers as very interested, while those taught by lectures considered their teachers only moderately interested in them (Table 7.7).

"I would have preferred more discussion, not orations, after the clinical demonstrations."

"First and foremost, the need is for a chance to have discussions with members of the staff - especially in so indefinite and subjective a subject as psychiatry is at the moment."

"Some of the lecturers have not been stimulating."

"The contact I have been able to make with psychiatric teachers has been inadequate and has left me wondering whether psychiatrists are perhaps a little bit eccentric socially. In our pre-clinical years we welcomed getting to know our teachers in more congenial social surroundings than a lecture theatre or laboratory. When we entered the higher realms of suits and stethoscopes we felt apprehensive of inviting those awesome gods who became our teachers - unless it was formally to a ball or a cocktail party. I enclose an invitation for a students' party tomorrow night. We will be happy to see any of our teachers who have time to pop in for a drink and a chat."

"Personally I derive practically no benefit from a course of lectures, however for the sake of confirming this I went to most of them. I would have greatly preferred /

preferred a tutorial system whereby one can enjoy a personal relationship with the teacher."

TABLE 7. 7. TEACHERS' INTEREST

Did you find the teachers in the course were interested, and invited student response?

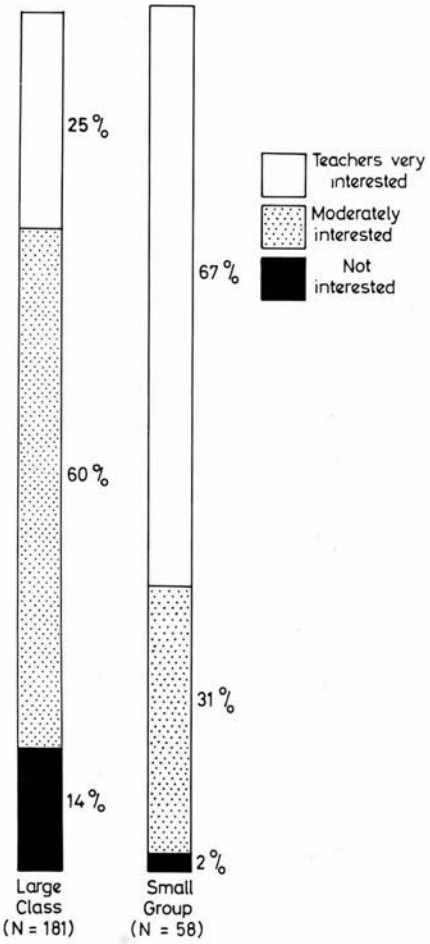
	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Very much so	21	13	23	25
Moderately	59	8	50	10
No	4	1	22	0
	Tau = -.27; u.n.d. = -2.78; p = .003		Tau = -.43; u.n.d. = -5.11; p = .0000002.	

This pair of findings demonstrates that if teachers consider student-teacher interaction an important ingredient in teaching, seminar groups provide this more effectively than lectures. Teacher contact is a direct function of the training method used. Interest of the teacher of course varies with the individual: Year B tutors were more effective in a number of respects than their Year A counterparts, as subsequent findings will also demonstrate.

The general tendency of lecture-taught students to perceive their teachers as uninterested, and of seminar-taught students to perceive their lecturers as interested, is demonstrated in

Figure/

MEDICAL STUDENTS' ASSESSMENT OF
INTEREST SHOWN IN THEM BY THEIR LECTURERS,
IN RELATION TO METHOD OF TEACHING



Kendall's Tau = 0·36 ; P = 0·000000005

4.2. THE AMOUNT OF LECTURING DESIRED: The majority of students tended to consider that the proportion of lectures they were given was the right amount. But a substantial number of the lecture-taught students considered their lectures excessive, while a fair number of the seminar-taught students wanted some lectures (Table 7.8). A student in a seminar group wrote:

> "Although I am pleased with the knowledge and experience I obtained in interviewing a patient and seeing my colleagues do the same, I feel I would have got more facts from lectures given to the main class. A combination is therefore advisable."

> "There should be teaching in smaller groups if possible, but not discussion groups: these are futile where one is still trying to grasp basic facts and principles."

A woman student taught by lectures suggested:

> "I think it would be a good idea to have a short course of lectures, and the remainder of the time to be spent in tutorials - small groups with another doctor - discussing patients and the disorders they present, including the differential diagnosis and their treatment."

Some lecture-taught students thought the course could have been improved by greater effort on the part of lecturers. A man student suggested:

> "better preparation of lectures by lecturers, so that

spontaneous/

spontaneous and informed knowledge rather than stereotyped sentences and unthought-about verbiage may be heard by students."

His wife was rather more critical:

"I did not find the lectures very helpful and feel that the facts given there could have been more easily assimilated if we had just read them ourselves."

She added,

"I would very much like to have seen more patients and talked to them myself."

TABLE 7. 8. SATISFACTION OVER NUMBER OF LECTURES

The proportion of lectures in this course was:

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Excessive	29	1	26	3
Right amount	53	10	64	16
Not sufficient	2	8	5	6
Total	84	19	95	25
	Tau = .41; u.n.d. = 4.29; p = .000001		Tau = .23; u.n.d. = 2.60; p = .005	

4.3/

4.3. OPPORTUNITY TO EXAMINE PATIENTS: The aspect of the training evoking most feeling from students, to judge by their spontaneous comments, was the arrangements for clinical contact with patients. (That this preoccupation exists on a national basis was evident from the British Medical Students' Association Report, 1959, in which the chief recommendation was for more time devoted to the clinical teaching of psychiatry.) The students taught by lectures and demonstrations were sometimes vehement over not having had patients to examine, and much derogatory comment was directed at the clinical demonstrations:

> "In general medicine and surgery there is a large emphasis on student-patient contact - why not in psychiatry?"

> "I felt the lack of opportunity for talking to psychiatric patients in private."

> "Course too cramped. Not enough time to read a bit more widely apart from lecture notes. Insufficient contact with patients. Insufficient discussion between students and teachers, especially concerning diagnoses the teachers make."

> "More contact could have been arranged with patients!"

> "I would have liked to have more opportunity to see patients, both with doctors and by myself." (Woman student)

" .. this/

"..... this, I feel, would have completely eradicated my present feeling that I have a lot of theoretical and virtually no practical knowledge of the subject."

"Unless a student is brought into contact with the patient he will neither be in a position to take a good history nor appraise the significance of the symptoms."

"I feel very strongly about this - obstetrics is another offender. It means nothing to hear lectures, despite the fact that many are excellent, unless the formal teaching can be correlated with the wide spectrum of physical, psychological and mental signs of psychiatric disorders."

"I would have liked to personally interview and try to diagnose a few patients - say three or four to gain some confidence in the subject and for the exam."

"Watching demonstrations alone is not enough to appreciate and learn the ability to talk to patients and find out what is wrong with them."

"There should be a minimization of the circus-like demonstration of disturbed patients to large audiences - a la Charcot."

"Instead of the 'variety performances' on Friday afternoons, the worth of the course would be increased if there were facilities for students to see patients, as in other clinics, in small groups."

"Seeing more patients clinically was necessary in smaller groups /

groups rather than in a zoo-like herd with a few performing animals on a stage."

"The fact that we are expected to diagnose a psychiatric case in the professional exam when most of us have actually spoken to 1 or 2 patients personally is the height of stupidity, and I'd say this to Professor Carstairs given the opportunity. I feel very strongly about this."

"For many of the class their first contact with a mentally-disordered person was in the Professional Clinical Examination - a ludicrous state of affairs."

"There was a strong tendency in this course for keeping us away from patients. To illustrate, I took one case history (not counting a second, in the clinical exam) throughout the course. Training in treatment of patients has been extremely scanty, in fact, I think, non-existent."

To a highly significant degree, lecture-taught students failed to examine patients themselves while seminar-taught students did examine psychiatric patients (Table 7.9.).

TABLE 7. 9. STUDENTS' CONTACT WITH PATIENTS

Have you personally interviewed patients during the course?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
More than 3	2	0	7	4
2 or 3	21	5	24	12
One	16	17	27	19
No, none	44	0	38	0
Total	83	22	96	35

=-.25; u.n.d.=-2.71; p=.003. Tau=-.26; u.n.d.=-3.23; p=.0006

Table 7.10 shows the two years combined, and demonstrates that most students in the lecture classes did not interview a patient. However, it is also apparent that almost a third of the lecture taught students contrived to examine two or more psychiatric patients, not much behind the proportion of seminar students who saw as many cases. There are obviously means by which students taught by lectures can manage to examine psychiatric patients for themselves.

PATIENT CONTACT,
FOR DIFFERENT TEACHING METHODS

Have you personally examined patients during the psychiatry course?	All students		Students taught by lectures		Students taught in small groups	
	Number	%	Number	%	Number	%
Yes, more than 3	13	5	9	5	4	7
Yes, 2 or 3	63	26	45	25	18	31
Yes, 1	79	33	43	24	36	62
No, none	84	35	84	46	0	0
Totals	239	100	181	100	58	100

Tau for association between teaching method and amount of clinical contact = 0·27 ; P = 0·000004

4.4. SATISFACTION WITH CLINICAL CONTACT: The majority of seminar-taught students considered the amount of clinical contact provided as inadequate. The lecture-taught students were more discontented, most regarding the amount of patient contact provided as very unsatisfactory (Table 7.11).

Table/

TABLE 7. 11. SATISFACTION WITH AMOUNT OF PATIENT CONTACT

Was this amount of clinical contact adequate for learning what you consider necessary?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Extremely adequate	0	0	0	0
Adequate	0	1	6	7
Inadequate	35	15	34	22
Very unsatisfactory	49	6	55	6
Total	84	22	95	35

Tau = -.26; p = .003 Tau = -.36; p = .0001

The statistical finding and the spontaneous comments suggest that more patient contact was the ingredient in the small group teaching producing greater satisfaction with the training among the seminar students, while the lack of provision for interviewing patients was the major defect in the lecture course. Table 7.12 compares all students taught by lectures with those taught by seminars, and demonstrates that only 16 per cent of the latter considered the clinical training adequate.

Table /

STUDENTS' SATISFACTION OVER CLINICAL CONTACT, FOR DIFFERENT TEACHING METHODS (N = 239)

Was the amount of clinical contact with patients adequate for learning what you consider necessary?	All students	Students taught by lectures		Students taught in small groups	
	%	Number	%	Number	%
Extremely adequate	0	0	0	0	0
Adequate	6	6	3	9	16
Inadequate	45	71	39	37	64
Very unsatisfactory	49	104	58	12	20
Totals	100	181	100	58	100

Tau for association between teaching methods and amount of satisfaction = 0·33; P = 0·00000008

When students were asked what aspect of the teaching they would want to see extended as a priority the great majority in both years - regardless of the way they had been taught - wanted provision made for more contact with patients. (Table 7.13)

TABLE 7. 13. ADDITIONAL TEACHING FAVOURED

If extended time were provided, for which of the following subject areas would you propose the time should be used? (N = 235)

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Systematic Clinical psychiatry	19	3	17	2
Personality Development	3	0	10	4
Practical experience in interviewing patients	55	15	61	21
Psychology + sociology	6	4	7	8
Total	83	22	95	35

The students, irrespective of their method of training, insisted that to deprive them of contact with patients was to deter them from learning.

"While I would not wish to cut down the time devoted to formal lectures, which I feel are important, I think that much more time should be devoted to permitting students to interview patients. After all, the only way to find out the abnormalities in a patient's mental state is by interviewing him, and to acquire skill in this field requires a vast amount of practice, just as it requires practice in medicine to carry out an efficient physical examination."

"I greatly enjoyed being in a tutorial group. I should have liked to have seen more patients and followed their treatment." (Woman student)

"Assuming that I pass the Psychiatry examinations first time, I will have personally interviewed the astounding total of three psychiatric patients (two in the elective course a year ago and one in the clinical exam). This is ridiculous. Psychiatry is a clinical subject, so why the total lack of clinical experience?"

"I deplore the lack of opportunity afforded to students to interview patients. I conducted only one interview in 12 months - my professional exam."

"I would have liked to interview many more cases personally especially because I saw very little psychiatry since the elective course last year. I feel entirely detached from a subject which must be taught in a practical as well as a theoretical way."

"I/

"I would have welcomed the opportunity to have personally conducted more interviews with patients, preferably under supervision so that mistakes in technique could be corrected."

"I favour many more personal interviews with patients, both in-patients and out-patients, under the supervision of an experienced clinician; also an opportunity to see 'hot' cases, and acute florid psychoses, before treatment completely masks the picture. It might also have made the course better if there was opportunity to be psychoanalyzed!!"

"It is very frustrating to have to forgo any personal insight into matters which are naturally considered indelicate to discuss in front of a large number of people, these important facets in understanding the development of a mental illness being too often relegated to a private interview between the psychiatrist and patient later."

The following parts of the enquiry explore the different areas where small group teaching is more effective than lecture teaching.

5. AREAS OF GREATER EFFECTIVENESS OF SEMINAR TEACHING

(a) Psychodynamic Knowledge: Teachers of psychiatry give great emphasis to informing medical students about forces operating in interpersonal relationships and during the development of personality, and about the emotional conflicts associated with psychiatric disorder.

In/

In communicating this category of knowledge, small group teaching works better than lectures (Table 7.14).

TABLE 7.14. PSYCHODYNAMIC KNOWLEDGE OBTAINED, SELF-RATING

How much knowledge did you gain from the course about psychological adjustment and emotional conflict?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Great deal	4	5	5	6
Good deal	17	17	17	46
Moderate amount	40	50	50	40
Little	33	24	24	8
Nothing	6	4	4	0
Per cent	100	100	100	100
	Tau = -.27 u.n.d. = -2.98 p = .001		Tau = -.27 u.n.d. = -3.32 p = .0004	

Most lecture-taught students say they learned a moderate amount, as do most of the seminar-taught students in Year A. However, in that year sufficiently more students in the lecture classes learnt little or nothing for the statistical difference between the methods of teaching to be significant. In Year B the seminar-taught students considered psychodynamic knowledge better taught, but even among them were critical individuals:

"I/

"I think my tutorial group was excellent but I thought 55 minutes never long enough for discussion and evaluation of a particular topic."

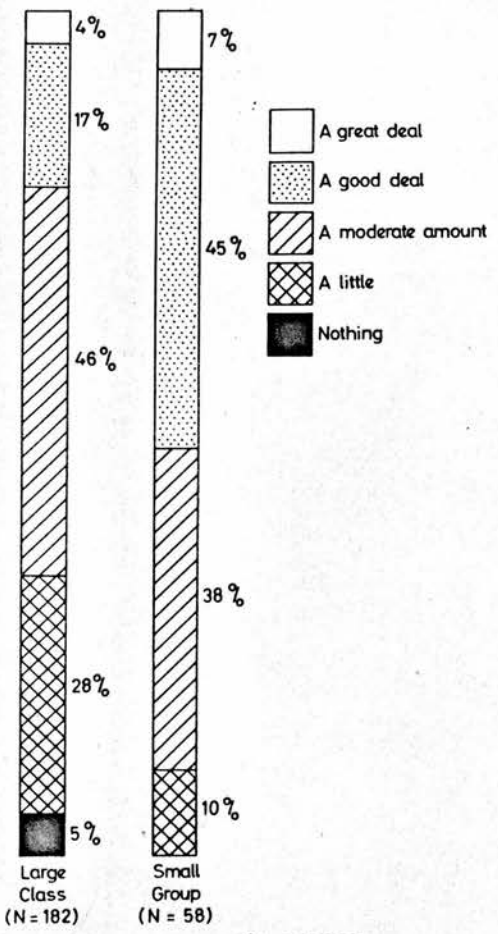
"Being in a tutorial group was interesting and stimulating. However, generalizations and a continuous stream of ready answers and indefinite explanations, whereby a great deal of talk was used but in effect nothing was said, only serve to defeat the purpose. If you are eloquent and imaginative enough you could fit most patients into any category you choose, let alone the hopeless and bewildering task of reconciling American and English terminology. If less time were devoted to playing with words teaching would be enhanced." (Student with an American psychiatrist as tutor)

Attention to the breakdown in this and the other tables will show the caution and restraint with which students evaluated the strengths and weakness of the teaching.

Figure 7.2 shows graphically the greater satisfaction of seminar-taught students with the knowledge they gained about psychodynamic factors in personality adjustment and psychiatric illness.

Figure/

STUDENTS' SELF-RATING OF THEIR KNOWLEDGE
ABOUT PSYCHOLOGICAL ADJUSTMENT AND EMOTIONAL CONFLICT,
BY METHOD OF TEACHING



Kendall's Tau = 0·28 ; Z = 4·65 ; P = 0·000008

(b) Ability to Carry out a Psychiatric Examination; This technical skill is very poorly conveyed by the lecture instruction, in the opinion of students. Most seminar students in Year A consider the skill was well taught, and Year B seminar students are still more approving (Table 7.15).

Table/

TABLE 7. 15. SKILL ACQUIRED FOR PSYCHIATRIC EXAMINATION OF PATIENTS

How adequate was the teaching you received about skills in carrying out a psychiatric examination?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Extremely poor	16	0	12	0
Very poor	19	2	23	3
Poor	23	1	33	0
Average	14	4	12	4
Good	9	8	8	13
Very good	3	6	7	13
Extremely good	0	1	0	2
	Tau = .43; u.n.d. = 4.95; p = .0000003		Tau = .49; u.n.d. = 6.28; p = very highly significant	

(c) Psychotherapeutic Techniques: Only a few teachers give emphasis to instructing medical students about psychological treatment procedures (Walton and Drewery, 1964). The time available for psychiatry is restricted; some teachers consider that undergraduate medical students are too young and inexperienced to profit from psychotherapeutic instruction.

Table 7.16 shows that the majority of students, after either method of instruction, consider they have learned only little, but the seminar-taught students came to understand more about psychotherapy than the lecture class students.

Table/

TABLE 7. 16. AMOUNT LEARNED ABOUT PSYCHOTHERAPY PROCEDURES

How much did you personally learn about methods of psychotherapy?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
A great deal	1	0	1	0
A good deal	2	4	1	5
A moderate amount	14	6	24	12
A little	47	10	48	14
Nothing	20	2	22	4
Total	84	22	96	35
	Tau = -.24; u.n.d. = -2.59; p = .005		Tau = -.21; u.n.d. = -2.60; p = .005.	

In this area the Year B tutors did not do better than the Year A tutors, as occurred in a number of other areas: to exactly the same extent in the two years the lecture classes were the more dissatisfied. This may have been because the course did not provide the ingredients, over and above tutors' efforts, necessary for students to learn about psychotherapy.

That contingency could be tested by asking the students not how much they learned, but how good the teaching was (Table 7.17). The usual greater approval of the Year B seminar students manifests again, although in both years the

lecture/

lecture-taught students are the more critical.

TABLE 7. 17. ADEQUACY OF TEACHING ABOUT PSYCHOTHERAPY PROCEDURES

How adequate was your teaching about psychological treatment methods (interview procedures)?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Extremely poor	12	0	8	0
Very poor	17	3	19	2
Poor	19	6	32	5
Average	27	3	26	7
Good	8	4	9	8
Very good	0	6	0	12
Extremely good	1	0	1	1
Total	84	22	95	35
	Tau = .25; u.n.d. = 2.93; p = .002.		Tau = .43; u.n.d. = 5.54; p = .00000002.	

The small group students approved more of the instruction about interviewing procedures, but they were not by any means enthusiastic. In fact, 2/5 of the tutor-taught students in Year A considered interviewing instruction poor or very poor.

The greater differentiation between Year B students taught by the two different methods derives from the large

number/

number of small group students who thought their teaching about interview procedures very good.

(d) Measures by the doctor to relieve emotional disturbance: Students were still more critical concerning the instruction they obtained about behaviour by the doctor which is effective with emotional disturbances in patients, although small group students considered they had been better taught than lecture class students (Year A, $p = .003$; Year B, $p = .003$). Their impression that they had been taught how to diagnose patients but not how to initiate treatment and to carry it along was conveyed by students' comments. A woman student wrote:

> "I feel I have little idea of what I expect the progress of any patient to be, once they have been diagnosed. If it could be possible, I feel it would be of great value to see patients repeatedly at intervals so that the effect of the initial treatment could be assessed and an understanding of when some different approach should be tried."

The shortcoming of the instruction was emphasized in conveying how adequate the training had been about ongoing care of patients (Table 7.18.).

Table/

TABLE 7. 18. MANAGEMENT OF AN ILLNESS

How adequate was the teaching about management of a patient in practice over a time?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Extremely poor	8	1	12	1
Very poor	16	3	22	3
Poor	37	8	43	13
Average	20	6	13	13
Good	1	3	5	4
Very good	2	1	0	1
Extremely good	0	0	0	0
Total	84	22	95	35
	Tau = .16; u.n.d. = 1.82; p = .034.		Tau = .30; u.n.d. = 3.78; p = .00008.	

Very few students in either year judged this aspect of the training as good. Enough lecture-taught students in both years rated their training in this respect very poor, and sufficient small group students thought the teaching was adequate, to lead to a significant difference at the end of the course between students taught by the two methods.

Asked directly how much they have learnt about the treatment and management of emotional disorders, both the lecture-taught and the small group students respond similarly

(Table/

(Table 7.19). The tutor-taught students, relatively satisfied in other areas though they were with their training, did not consider they had been enabled to learn about the clinical management of psychological illness.

TABLE 7. 19. AMOUNT LEARNED ABOUT TREATMENT AND MANAGEMENT OF EMOTIONAL DISORDERS

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
A great deal	1	1	5	0
A good deal	28	4	23	7
A moderate amount	46	15	44	21
A little	9	2	20	7
Nothing	0	0	4	0
Total	84	22	96	35
	Tau = N.S.		Tau = N.S.	

One woman student in a seminar group revealed the deficiency by her response when, after a good presentation of a patient, she was encouraged to maintain contact with the patient during his hospitalization. At the next seminar she admitted that she had returned to see the patient again but found herself tongue-tied, at a loss how to convey to the patient that she intended to see him repeatedly over a sequence of interviews.

6./

6. ATTITUDES TO PATIENTS

Students were asked to convey whether they were interested in psychiatric patients. Those taught by seminars were the more interested, although the difference between the effects of the two teaching methods as measured by this variable did not quite reach significance (Table 7.20).

TABLE 7. 20. INTEREST IN PSYCHIATRIC PATIENTS

How would you rate your interest in psychiatric patients in general?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Interested in them	59	19	70	30
Interested only in some	23	3	25	5
Disinterested	2	0	1	0
	Tau = -.150 u.n.d. = -1.55 p = .06		Tau = -.13 u.n.d. = -1.53 p = .06	

Practically all the students taught in seminars conveyed interest without reservations; but after lecture teaching substantial numbers of students qualified their interest in psychiatric patients.

Students taught by lectures conveyed in addition some concern

concern about handling those among neurotically disturbed patients who come to experience an emotional attachment to the doctor (Table 7.21). The seminar students have more confidence that they will know how to react in later practice when patients express affection or make appeals for emotional responses from the doctor.

TABLE 7. 21. RESPONSE TO EMOTIONAL ATTACHMENT BY PATIENTS

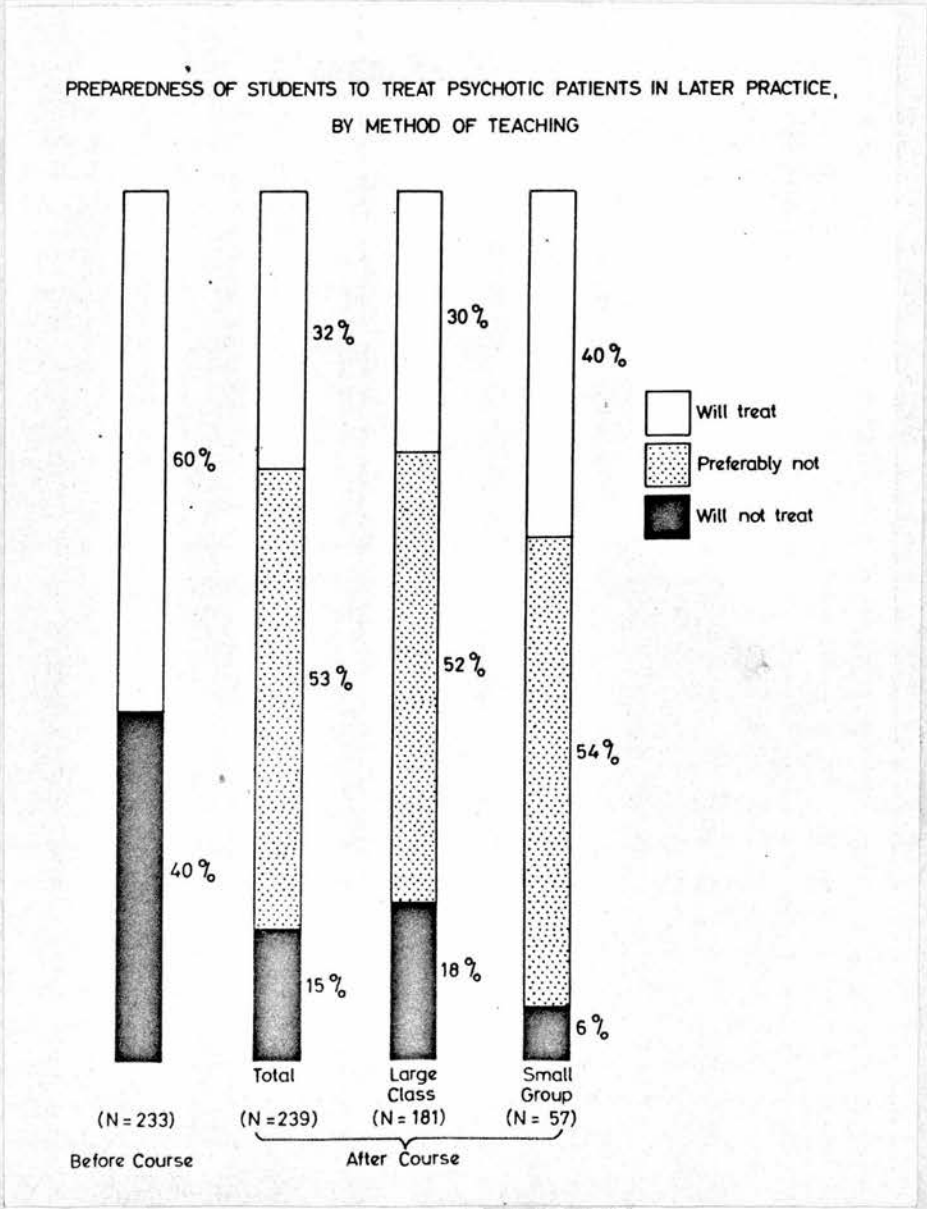
Do you think you will manage the situation of having a patient express an emotional attachment to you?

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Almost sure I can handle this situation	30	11	33	17
Believe I can handle this situation	44	11	57	17
Sure I won't be able to handle this situation	10	0	6	0
Total	84	22	96	34
	Tau = -.153 u.n.d. = -1.63 p = .05		Tau = -.16 u.n.d. = 1.86 p = .03	

They were also asked to indicate whether they considered patients with the more serious psychiatric disorders a valid

responsibility/

responsibility in later medical work. In both years most students, taught by either method, did not want to take responsibility for psychotic patients in later practice (Figure 7.3). Among the tutor-taught students 40 per cent describe themselves as prepared to treat psychotic patients in later practice, but only 30 per cent of the lecture-taught students; 18 per cent of the lecture-taught students reject psychotic patients but only six per cent of the tutor-taught students (Tau = 0.36; p = .014).



Seminar-taught students, in summary, do not do better in objective tests of knowledge or skill than lecture-taught students. The difference to be found in students taught by the different teaching methods is in the area of attitudes. Students taught by seminars are more satisfied over teacher contact, and teacher interest, they get better opportunity to examine patients for themselves, they consider seminar teaching much more effective in enabling them to learn, and they acquire more positive professional attitudes to psychiatric patients. This leads to students conveying very emphatically, when asked after the course which method of training they prefer, that seminar teaching is held in great relative favour. As Table 7.22 shows, hardly any students prefer lectures to tutorial groups; lectures have somewhat more approval among students who were taught by lectures, while those taught in tutorial groups are more strongly opposed.

STUDENTS' PREFERENCE (AFTER PSYCHIATRIC TRAINING) FOR DIFFERENT TEACHING METHODS

Which do you think has the more to offer in learning psychiatry?	All students		Students taught by lectures		Students taught in small groups	
	Number	%	Number	%	Number	%
Being taught in small groups	213	96	159	89	54	95
Teaching to the class as a whole	22	4	19	11	3	5
Totals	235	100	178	100	57	100

7. AREA OF POSSIBLY GREATER EFFECTIVENESS OF LECTURES

In only one of the 114 comparisons did the students express greater favour for lectures over seminar teaching. This applied to only one year, and concerned the adequacy of teaching about descriptive psychiatry (Table 7.23). In Year A the students who had been in the lecture class rated their factual clinical psychiatry teaching significantly more favourably than their fellows in the seminar groups. Lecture students in Year B also were more approving, but there was only a trend in the direction of greater approval.

TABLE 7. 23. DESCRIPTIVE PSYCHIATRY

Rate the teaching you received about clinical facts and systematic description of psychiatric disorders.

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Very poor	0	1	0	2
Poor	2	5	6	3
Average	12	7	13	7
Good	42	6	50	14
Very good	24	1	21	9
Extremely good	4	2	4	0
Total	84	22	94	35
	Tau = -.31; u.n.d. = -3.48; p = .0002		Tau = -.10; u.n.d. = -1.24; p = .10, N.S.	

The/

The finding may indicate that the Year B tutors helped their students to learn and understand more facts than tutors succeeded in doing during Year A.

8. OVERALL ASSESSMENT OF TRAINING

When asked to rate the course as a whole, students in both years were more favourably disposed if they had been taught in seminar groups (Table 7.24). The relative dissatisfaction of the lecture class was greater in Year A, which in many respects showed less discrepancy between the two teaching procedures than Year B. In the second year students were considerably more approving of the tutorial groups.

TABLE 7. 24. RATING OF OVERALL STANDARD OF THE COURSE

	Year A		Year B	
	Lecture Class	Seminar Group	Lecture Class	Seminar Group
Extremely poor	0	0	0	0
Very poor	0	0	0	0
Poor	12	1	10	2
Average	41	10	49	7
Good	29	7	33	17
Very good	2	4	2	9
Total	84	22	94	35
	Tau = .16; u.n.d. = 1.79; p = .04		Tau = .34; u.n.d. = 4.13; p = .00001.	

Chapter 8

COMBINED TEACHING

AN INTERMEDIATE TRAINING METHOD

The next stage in the investigation was the provision of a course in psychiatry in which small group teaching was combined with lectures. The hypotheses tested were the following:

1. Students given lectures in addition to seminars would learn more factual knowledge than students taught exclusively by seminars.

2. Students given the combined teaching would be more satisfied with their learning opportunities than lecture-taught students, but less satisfied than seminar-taught students.

To evaluate whether some seminars would produce the positive attitudes resulting from exclusively tutorial training, the third method of instruction, Combined Teaching, was planned. Year C, consisting of 162 fifth year students, was taught by means of lectures for three hours a week over 10 weeks, and in addition once weekly clinical training was given in tutorial groups of 9-12 students. The Year C students thus had the same tutor throughout the course, but they met with him only for 1½ hours weekly in place of the 4½ hours weekly provided

for/

for the Seminar Group students from Years A and B.

The Lecture Classes were given no seminars while the Seminar Groups had no lectures except for two open lectures which these students had the option to attend. The Combined Teaching provided both lectures and seminars, over the same number of hours.

When the differences between Years A and B were discussed in Chapter 2 , it was emphasized that years of intake vary perhaps on grounds of varying selection procedure.

Years A and B students had been randomly assigned to the lecture and the seminar teaching. Because the Year C students were all taught by the same method, this third sample must be regarded as dissimilar from the lecture classes and the seminar groups.

Therefore, Class C was compared with the other two groups of students to see if it differed in respect of the intervening variables known to be of importance.

i. Sex: Year C did not contain a significantly different proportion of women from the lecture classes and the seminar groups (Tau = .03; s.d.u. = .72; N.S.).

ii. Nationality: The proportions of Scots, English and Overseas students in Year C did not differ significantly from their representation in the other two groups.

iii./

iii. Personality: There was no significant difference in Year C in any of the four personality factors tested. Extraversion was very evenly distributed (Tau = .00). There was a slightly lower Neuroticism level among the lecture-taught students (Tau = -.02; u.n.d. = -.55; N.S.). The lecture classes had somewhat higher complexity scores (Tau = .03; u.n.d. = .73; N.S.). Thinking-introversion was slightly lower among the lecture-taught students (Tau = -.01; u.n.d. = -.35; N.S.).

In academic ability the Year C students also resembled those in the other two groups. Overall Medical School Competence was measured, as before, by subdividing total professional examination scores into eight categories (Table 8.1). The Combined Teaching students were not significantly different in the distribution of the general examination ability factor among them.

Table 8.1./

OVERALL MEDICAL SCHOOL PERFORMANCE

RANKED SCORES	Lecture Classes	Combined Teaching	Seminar Groups
1	20	7	1
2	16	17	11
3	23	27	12
4	27	22	7
5	25	26	10
6	36	38	8
7	24	13	4
8	11	9	5
	N=182	N=159	N=58
			TOTAL = 399

X^2 = 20.75; d.f. = 14; p =.11, N.S.
Tau = -.023; unit normal deviate = -.56; p = .23, N.S.

Furthermore, constant and variable examination performers have been fairly evenly distributed among the three training methods (Table 8.2). More variable students went into the lecture classes and less into the seminar groups; the Combined Teaching group contained an intermediate number of students who fluctuate in the level of examination performance; the difference between the three groups was not significant.

Table 8.2./

CONSTANCY OF EXAMINATION PERFORMANCE DURING MEDICAL SCHOOL CAREER

	Percentages		
	Lecture Classes	Combined Teaching	Seminar Groups
Constant	75	79	83
Variable	25	21	17
Number of Students	183	159	58

$X^2 = 1.93$; d.f. = 2; p = .38, N.S.
Tau = -.07; unit normal deviate = -1.38; p = .08, N.S.

8.1. COMPETENCE IN PSYCHIATRY AFTER THE THREE TRAINING METHODS

1. FACTUAL KNOWLEDGE: After training, differences in performance were found among the students taught by the three methods. This did not apply to learning of psychiatric information. Contrary to the first hypothesis, students acquired the same amount of factual knowledge, as assessed by the same Multiple Choice Test as was administered over the three years, regardless of the training method used (Table 8.3).

Table 8.3./

MULTIPLE CHOICE EXAMINATION IN PSYCHIATRY			
RANKED SCORES	Lecture Classes	Combined Teaching	Seminar Groups
1	12	11	8
2	14	27	3
3	29	32	10
4	41	27	8
5	36	24	10
6	19	15	11
7	18	14	5
8	13	9	3
	182	159	58

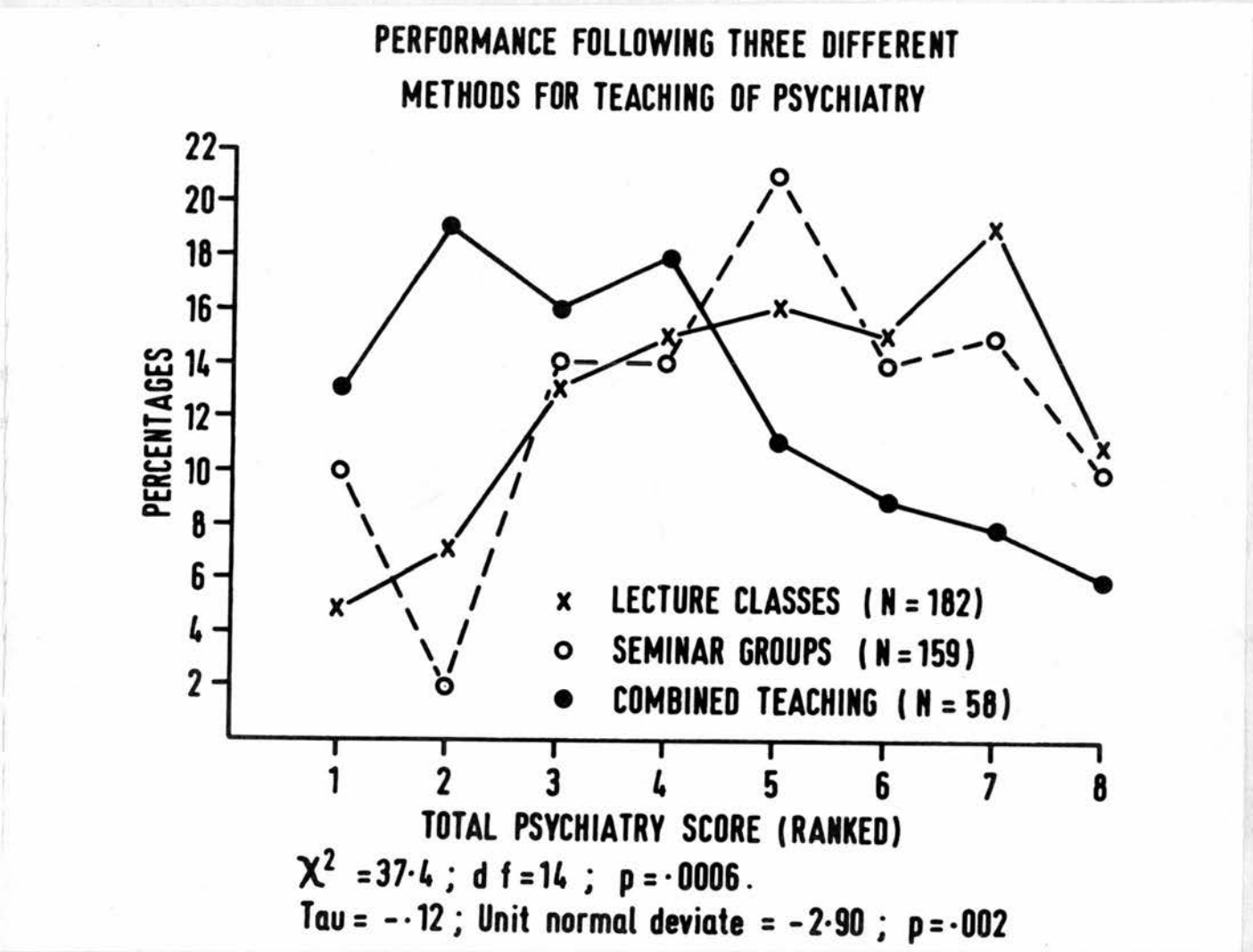
X^2 = 20.40; d.f. = 14; p = 0.12, N.S.
Tau = -.056; unit normal deviate = -1.35; p = .09, N.S.

The Essay Examination also failed to detect significant difference among the three categories of students.

2. OVERALL PSYCHIATRIC ABILITY: The total score in the professional examination in psychiatry (essays plus clinical plus oral) was affected by method of teaching. As Figure 8.1 shows, Combined Teaching produced the best results, the 2nd rank being the one students taught by this method most often attained. Seminar teaching was next most effective, the 5th

rank/

rank being the one most often allocated to tutor-taught students. Lecture-taught students fared worst; their scores accumulated most in the 7th ranking.



Combined Teaching is the method of training now used in Edinburgh for the undergraduate course in psychiatry.

3./

3. THE CLINICAL EXAMINATION IN PSYCHIATRY: The only separate evaluative procedure which differentiated students taught by the three procedures was the clinical examination in psychiatry. Each student was evaluated by two examiners, the score comprising the examiners' assessment of the student's ability in four areas. (Appendix 4)

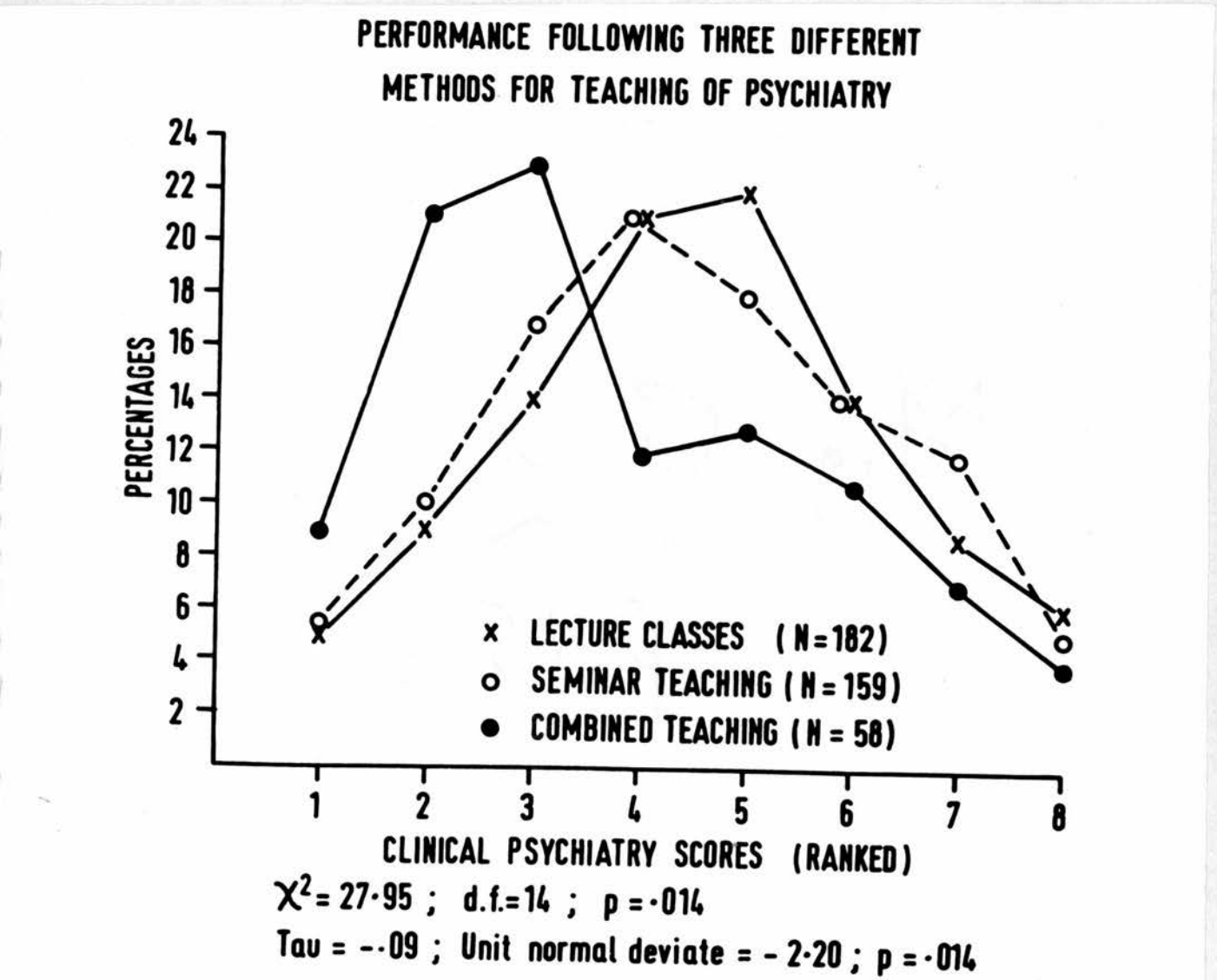


Figure 8.2 demonstrates that the clinical examination in psychiatry ranks students taught by the three methods in a distribution similar to that occurring with the Total Psychiatry Examination. The rank in which clinical examiners most often placed students given Combined Teaching was the 3rd; seminar-taught students were most often placed in the 4th rank; and students taught by lectures were most often assigned to the 5th rank.

4. CONCLUSION: The evidence is that students perform best in psychiatry after combined teaching. Seminar groups are the next most effective teaching procedure. Lectures and clinical demonstrations are the least effective.

8.2. ATTITUDE TO TEACHERS

Some Edinburgh teachers of psychiatry, especially those advocating training in psychotherapy, attach special importance to the relations between lecturers and students (Walton and Drewery, 1966). They emphasize the importance of closely supervising the student's studies, so that his own emotional responses during the training can be clarified for him; a number of lecturers consider that effective teaching of psychiatry depends on the relationship between teacher and student.

Satisfactory contact between students and teachers can be achieved by tutorial teaching, but the quantity of seminar

teaching provided is important. Table 8.4 demonstrates sharply that less than half the students given Combined Teaching considered that they achieved adequate contact with their teachers. This was much more association than lecture-taught students regarded themselves as obtaining. Only a small proportion of seminar-taught students regarded their contact with teachers as inadequate. (In some cases, as interviewing disclosed, students wanted association with more members of staff than only their tutor.)

CONTACT WITH TEACHERS

	Percentages		Number of Students 398
	Adequate	Not adequate	
Lecture classes	11	89	182
Combined teaching	44	56	158
Seminar groups	83	17	58

Tau = -.49; unit normal deviate = -10.29; p = very highly significant

X^2 = 110.29; d.f. = 2; p = very highly significant.

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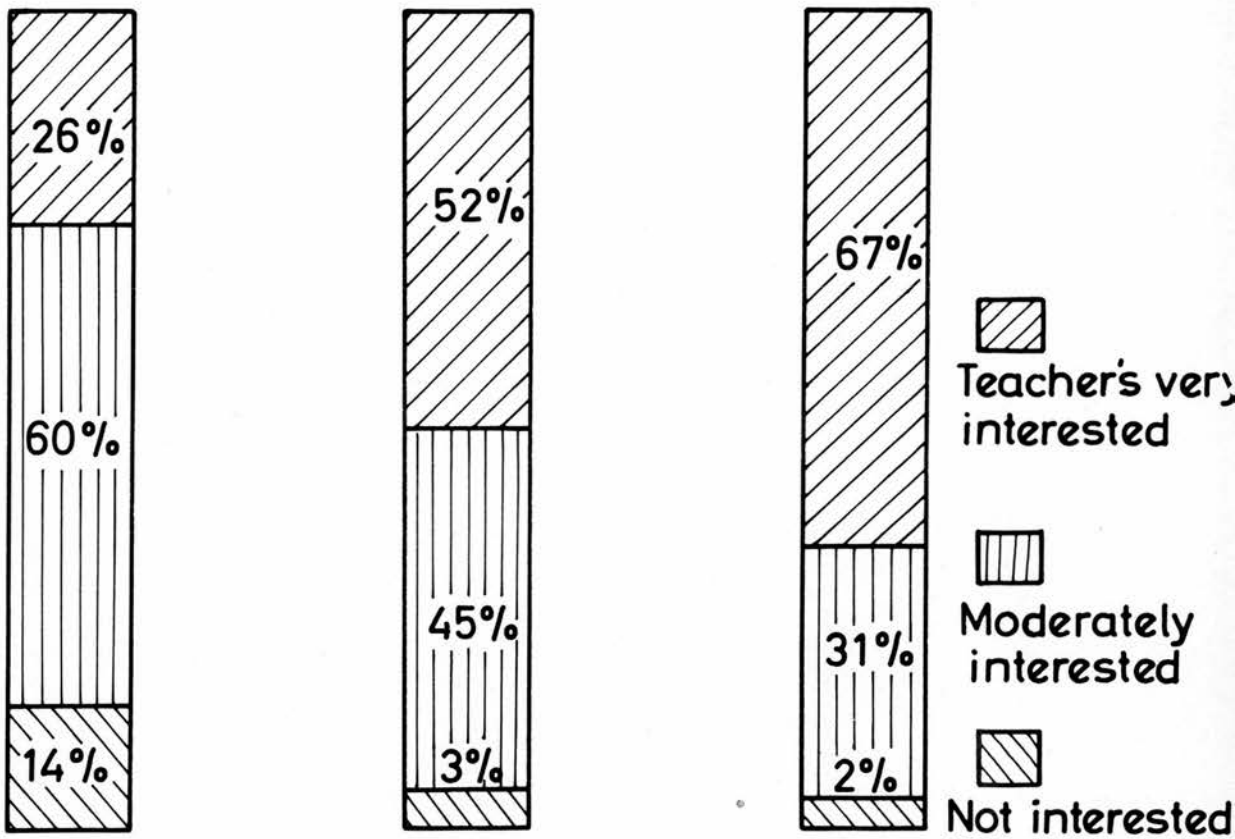
FIGURE 8.3

MEDICAL STUDENTS' ASSESSMENT OF INTEREST SHOWN IN THEM BY THEIR LECTURERS, IN RELATION TO METHOD OF TEACHING.



Kendall's Tau = -.32, unit normal deviate = 6.96,
P = very highly significant

This component in teaching can also be explored by asking students to describe how much interest they perceived their lecturers to show in them.

Figure 8.3 opposite shows that most lecture-taught students consider their teachers only moderately interested, a fair proportion having the impression that their lecturers were frankly uninterested. This adverse judgement improves when some clinical seminars are introduced with Combined Teaching. Only when provided with an ongoing tutor and not required to attend lectures do two-thirds of students come to view their teachers as very interested in them. This is one of the most prominent findings from the experiment: the more seminar teaching provided, the greater students' perception of their teachers as interested.

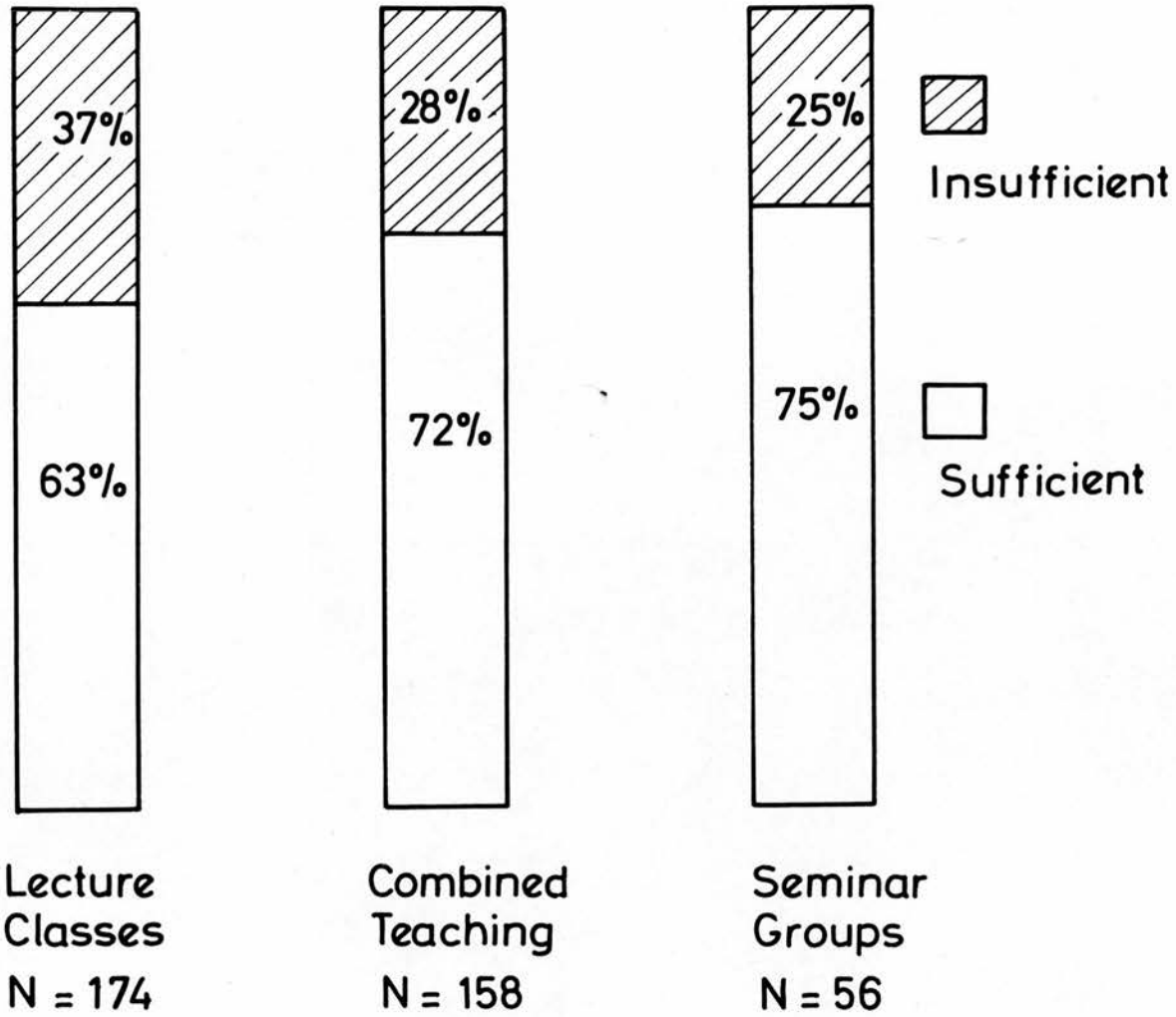
The relationship between student and teacher can be dissected further, by questions seeking to discover how closely students understand and accept their teachers' professional orientation. The students taught by the three different procedures were questioned about their observation of psychiatrists' attitudes to patients.

Figure 8.4 shows that as seminar teaching is introduced the amount of critical response declines and is at its lowest when no lectures or clinical demonstrations are used. The finding of course also suggests a remedial teaching approach

to/

To follow page 156

TUDENTS' APPRAISAL OF THE REGARD PAID BY PSYCHIATRISTS
O PATIENTS' BELIEFS AND VALUES.



Tau = −·10, unit normal deviate = 2·09, P = <·02

FIGURE 8.4

to those medical students who perceive psychiatrists as disrespectful of patients, which teachers may want to adopt if they consider it a goal of teaching to encourage appropriate psychiatric referrals in later professional life.

8.3. PATIENT CONTACT

The intermediate form of instruction, Combined Teaching, does not succeed to the same extent as Seminar Groups in providing students with opportunity to see psychiatric patients for themselves (Table 8.5).

A third of the 400 students involved in the investigation failed to examine any patients. In Chapter 7 the finding was discussed that half the lecture students never examined a

single/

single psychiatric patient during their instruction, while no student taught by seminars missed examining a patient clinically for himself. In the Combined Teaching 16 per cent of students did not examine even one patient. The Table shows clearly that if training aims to facilitate personal contact between student and patient, that is more effectively achieved the more seminars there are included in the course.

This finding rests on students' reports about their experience. When they were questioned about the arrangements made for clinical work, students taught by seminars and also those given Combined Teaching were by no means content. They regarded the clinical training facilities unfavourably (Table 8.6), two-thirds after both training procedures rating their clinical contact as inadequate. The lecture-taught students were much more discontented with their clinical instruction. They considered their opportunities to make contact with patients very unsatisfactory. The finding is that the greater the number of seminars, the more satisfaction students express over the clinical contact they were able to obtain.

Table /

STUDENTS' SATISFACTION OVER CLINICAL CONTACT, FOR DIFFERENT TEACHING METHODS

Was the amount of clinical contact with patients adequate for learning what you consider necessary?	Percentages		
	Lecture Classes	Combined Teaching	Seminar Groups
Extremely adequate	0	0	0
Adequate	3	7	15
Inadequate	39	62	64
Very unsatisfactory	58	31	21
Number of Students	181	159	58

Tau for association between teaching methods and amount of satisfaction = -.29; unit normal deviate = -6.29;
p = very highly significant.

No doubt can exist about the method of teaching students themselves prefer. Table 8.7 shows that, when asked to select one or other teaching method, students taught by all three training procedures overwhelmingly favour seminar teaching. Only 4 per cent of all students prefer lectures to the class as a whole rather than seminar teaching exclusively. It is of interest that those taught by lectures are likely to be more in favour of lectures than their fellows taught exclusively by seminars or given seminars in addition to lectures.

Table 8.7./

TABLE 8. 7. STUDENTS' PREFERENCE

Which do you think has the more to offer in learning psychiatry?

	Percentages		
	Lecture Classes	Combined Teaching	Seminar Groups
Being taught in small groups	89	96	95
Teaching to the class as a whole	11	4	5
Number of students	178	153	57

Tau = -.10; unit normal deviate = -2.17; p = .01.

8.4. IMPLEMENTATION OF LECTURERS' TEACHING OBJECTIVES

1. STIMULATING INTEREST: Any undergraduate course in psychiatry which fails to arouse greater interest in the subject is likely to be viewed as unsatisfactory both by teachers and students. A problem in asking students whether their interest was increased is the baseline variation; some students come to the study of psychiatry with interest already active, others have a bias against the subject before starting to study it.

Before starting the course, the students were asked their views about the relevance of psychiatry to general medicine, their degree of interest in psychological factors in illness

and/

and their attitude to psychiatry as a future career. As evaluated by these (and other) orientation variables, distribution of bias before training was not different among students taught by the three different procedures.

DEVELOPMENT OF GREATER INTEREST IN PSYCHIATRY

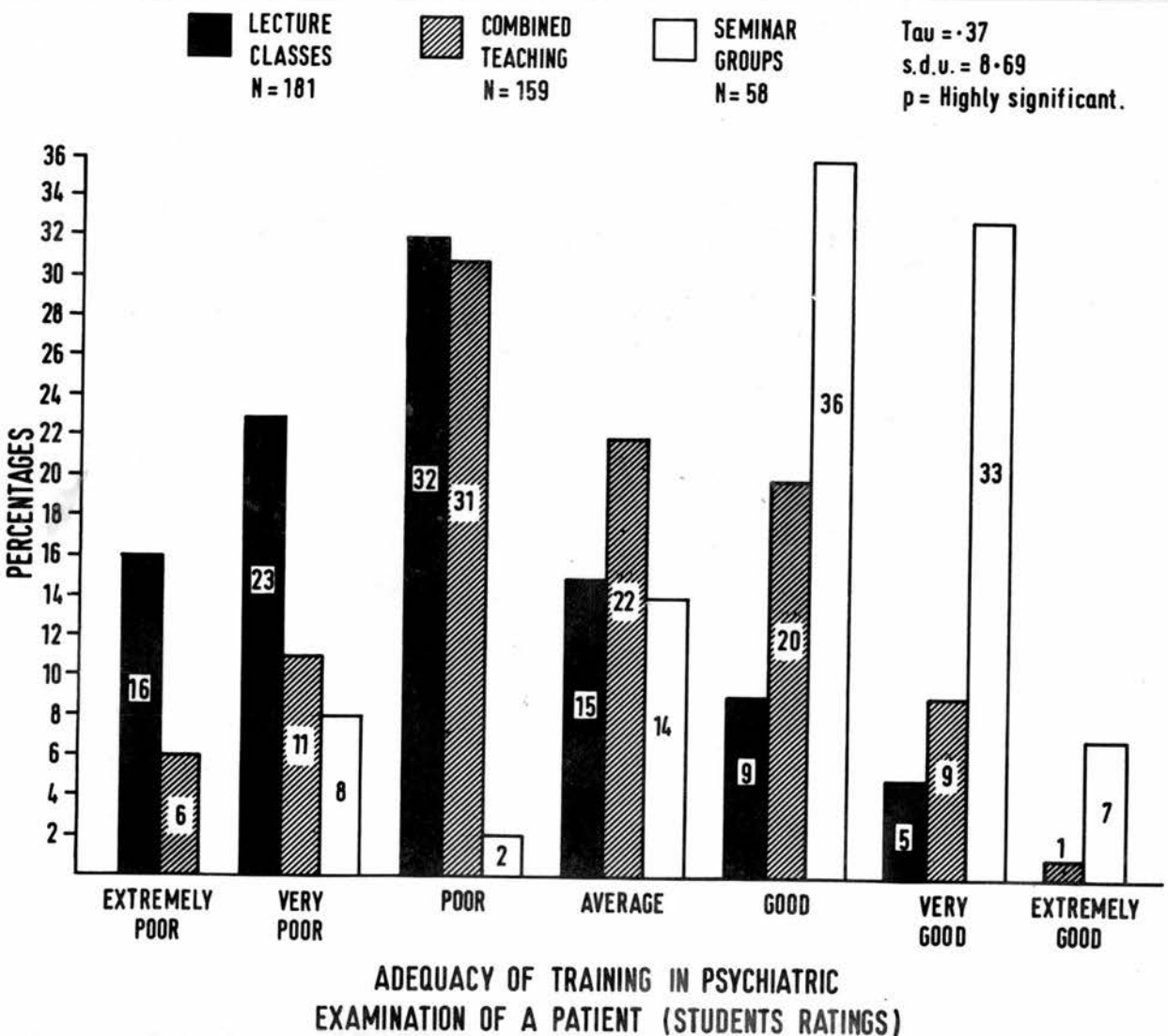
Has this course modified your interest in psychiatry?	Percentages			Number of Students 400
	More interested	Interest unchanged	Interest reduced	
Lecture classes	60	35	5	182
Combined teaching	71	26	3	160
Seminar groups	71	26	3	58

Tau for association between teaching methods and interest level = -.097; unit normal deviate = -2.06; p = .02.

Table 8.8 shows that significantly more students taught by lectures reported their level of interest in psychiatry as unchanged. In contrast to the third of lecture-taught students whose level of interest was unchanged, only a quarter of students taught by both other methods indicated that their degree of interest in psychiatry was the same as it had been before the teaching.

2. HOW TO EXAMINE A PATIENT: The famous investigation of North Carolina doctors (Peterson et al., 1956) disclosed that most qualified doctors are ignorant about the method for carrying out a routine examination of a patient's mental state. To ensure that medical students grasp this basic technique may be a primary aim of the psychiatric instruction.

One of the firmest findings from this investigation is that the more seminar teaching provided, the greater approval students express about the teaching given about how to perform a psychiatric examination of a patient (Figure 8.6). Among /



Among students taught by lectures and clinical demonstrations, 71 per cent consider their training in this regard poor or worse. Forty-eight per cent of students after Combined Teaching express the same judgement, but only 10 per cent of the seminar-taught students.

At the positive end of this variable, only 14 per cent of lecture-taught students consider they have been taught well how to carry out an examination of the mental state, as compared with 30 per cent of the students given Combined Teaching and 76 per cent of the Tutorial Group students. This strong relationship makes evident students' opinion that the more seminars provided the better they can learn the elementary clinical skills required to examine psychiatric patients.

3. PSYCHODYNAMIC KNOWLEDGE: The goal viewed as the second most important by Edinburgh lecturers was teaching information and theoretical knowledge about personality development and emotional conflict (Walton and Drewery, 1964). Students reported after being taught by the three methods that seminar teaching was the most efficient procedure for enabling psychodynamic knowledge to be learned (Table 8.9). Fewer seminars combined with lectures was a less effective method, while lecture teaching with clinical demonstrations was poorest. Again the finding demonstrates that the more seminars provided the greater students' opportunity to learn this aspect of psychiatry.

Table/

KNOWLEDGE ABOUT PSYCHOLOGICAL ADJUSTMENT AND EMOTIONAL CONFLICT

How much knowledge have you gained personally about psychological adjustment and emotional conflict?	Percentages					Number of Students 399
	A great deal	A good deal	A moderate amount	A little	Nothing	
Lecture classes	4	17	46	28	5	182
Combined teaching	1	30	40	26	3	159
Seminar groups	7	45	38	10	0	58

Tau = -.18; unit normal deviate = -4.04; p = .00003.

In a factor analysis of teachers of psychiatry in five medical schools (see page 185) psychodynamic teaching received considerable emphasis in the most important factor extracted. These teaching aims were stressed as components of the first factor:

i. Comparatively little time should be spent on psychoses and serious psychiatric illness - rather the student should be taught to understand all patients as people and to identify motivations of behaviour.

ii./

ii. Knowledge of psychodynamic theory (e.g. theory of schools of psychoanalysis, of interpersonal relationships) is a priority in teaching, requiring special emphasis.

iii. The symptoms of a mental illness should be presented as understandable from a detailed history of the patient's psychosocial development from childhood.

They are realized to the extent that tutorial group teaching is used as a training procedure; including some seminars in a predominantly lecture course is not as effective as use of seminars alone.

4. TEACHING OF PSYCHOTHERAPY: Among Edinburgh lecturers it was the university teachers rather than the clinical instructors with National Health Service appointments who wanted undergraduate medical students taught psychotherapeutic skills.

Students conveyed very clearly that the more tutorial groups provided the more adequate the training they could obtain in interview procedures. (Table 8.10)

Table /

ADEQUACY OF TRAINING ABOUT PSYCHOLOGICAL TREATMENT METHODS

(INTERVIEW PROCEDURES)

	Lecture Classes	Combined Teaching	Seminar Groups	
Extremely poor	20	10	0	
Very poor	36	15	5	
Poor	52	36	11	
Average	53	45	10	
Good	18	35	12	
Very good	0	14	19	
Extremely good	2	3	1	
Number of students	181	158	58	397

Tau = .305; unit normal deviate = 7.14; p = very highly significant.

They were still more restrained in conveying approval when questioned about more detailed psychological treatment methods (Table 8.11 - in the Table categories have been collapsed for ease of understanding). This finding illustrates a point that bears emphasis, the justness of students' evaluations. In a course lasting only ten weeks little can be taught about psychotherapeutic technique.

Fifty-one/

ADEQUACY OF TRAINING ABOUT METHODS OF PSYCHOTHERAPY

How much have you learnt personally?	Percentages				Total
	A good deal	A moderate amount	A little	Nothing	398
Lecture Classes	3	21	53	23	182
Combined Teaching	9	25	48	17	158
Seminar Groups	17	32	41	10	58

Tau = -.179; unit normal deviate = -4.00; p = .00003.

Fifty-one per cent of seminar-taught students reported that they learned little or nothing about psychotherapy; 65 per cent of the students given Combined Teaching reported similarly, and 76 of the lecture-taught students. The little psychotherapy taught in the psychiatry course is best taught when seminars are used exclusively, and least in a lecture programme with clinical demonstrations.

5. AREAS WHERE LECTURES ARE MORE EFFECTIVE: In two areas only is lecture teaching considered by students the most effective method.

1. The first is in an area regarded as of primary

importance/

importance by Edinburgh teachers, descriptive clinical psychiatry. Students who experienced lecture teaching are most approving of the opportunity provided for learning clinical facts and the systematic description of psychiatric disorder (Table 8.12). Provision of some lectures, as in Combined Teaching, is next most effective. Students taught in seminar groups give least favourable rating to the teaching they got about descriptive psychiatry.

ADEQUACY OF TRAINING ABOUT CLINICAL FACTS AND SYSTEMATIC DESCRIPTION OF PSYCHIATRIC DISORDER

	Lecture Classes	Combined Teaching	Seminar Groups
Extremely poor	0	1	1
Very poor	0	4	2
Poor	8	9	9
Average	26	44	14
Good	93	56	20
Very good	45	39	10
Extremely good	8	5	2
TOTALS	180	158	58

Tau = .16; unit normal deviate = -3.58; p = .0002.

For those teachers who attach particular importance to systematic clinical information, the lecture method appears to be an effective means for communicating such knowledge.

2. As might be predicted, lectures can be effectively used to convey information about physical treatments and drug treatments, aspects in which psychiatry more closely resembles the corresponding areas of general medicine. The students who considered they were taught least well about physical treatments and drugs in psychiatry were those experiencing Combined Teaching. Lecture teaching and seminar group teaching were both, and about equally, more effective in the estimate of students experiencing the different types of training (Table 8.13).

TABLE 8. 13. ADEQUACY OF TRAINING ABOUT PHYSICAL AND DRUG TREATMENTS

	Lecture Classes	Combined Teaching	Seminar Groups
	%	%	%
Very poor	7	16	4
Poor	15	28	17
Average	44	33	50
Good	27	20	24
Very good	7	3	5
Number of students	181	159	58

Tau = -.098; unit normal deviate = -2.25; p = .012.

6. OVERALL SATISFACTION: General approval of the training was tested in a number of ways. Students were asked if they

would/

would recommend the course they experienced to fellow-students were it an elective. The seminar-taught students responded most enthusiastically, the combined teaching students rather less favourably, and the lecture-taught students expressed most reservations (Table 8.14). However, it may be noted that the students taught by lectures were nevertheless appreciative of their training, less than a quarter expressing reservations.

APPROVAL OF TRAINING, BY TEACHING METHOD

If this course were an elective, would you recommend it to your fellow students?	Percentages		
	Lecture Classes	Combined Teaching	Seminar Groups
Strongly	27	43	47
Yes	49	44	48
With reservation	23	12	5
No	1	1	0
Number of Students	182	160	58

Tau = -.19; unit normal deviate = -4.15; p = .00002.

The discrepancy between the teaching methods shows up more grossly when assessment is asked for about the overall standard of the course (Table 8.15). The seminar students rate it highest, the combined teaching students somewhat less favourably, but both these categories of students are considerably more approving than the lecture-taught students.

STUDENTS' ASSESSMENT OF OVERALL STANDARD OF PSYCHIATRIC TRAINING

	Percentages				
	Poor	Average	Good	Very good	Number of Students
Lecture Classes	12	51	35	2	180
Combined Teaching	8	35	41	16	159
Seminar Groups	5	29	41	25	58
					397

Tau = .24
unit normal deviate = 5.30
p = .00000006.

A final index, of significance when later practice is kept in mind, is the degree of acceptance expressed regarding seriously disturbed psychiatric patients (Table 8.16). If a goal of training is to dispose students to be prepared to take part in the management of psychotic patients in later practice, exclusively seminar training succeeds best, some seminars is not as effective, and lecture teaching is least successful.

ACCEPTANCE OF PSYCHOTIC PATIENTS			
In my future practice I would want to undertake the supervision and management of psychotic patients:	Yes	Percentages Preferably not	No
Lecture Classes N = 181	30	52	18
Combined Teaching N = 157	42	43	15
Seminar Groups N = 57	41	54	5
Tau = -.114; unit normal deviate = 2.48; $p < .006$. $X^2 = 9.80$; d.f. = 4; p = .04.			

Chapter 9

COMMENT AND CONCLUSION

9. 1. RESEARCH DESIGN

Students in two classes of 5th year medicine, Years A and B, were randomized to two different training methods, Lecture Teaching and Seminar Groups, for the course in Psychiatry. The amount of time provided for teaching both groups was the same. In Year C the whole class was taught by a third method, Combined Teaching, in which lectures were given but instead of clinical demonstrations to the class as a whole seminar groups were formed for clinical instruction. The Year C students, before being given the Combined Teaching, were studied in terms of the intervening variables of importance which emerged as significant in the first part of the investigation. Year C students were found to be similar in these respects to the groups of students taught by the other two methods. That attention must be paid to variations related to year of entry was demonstrated by the finding that the Year A class differed significantly from Year B in one of the personality factors evaluated: the second class was higher in Neuroticism, a measure of anxiety.

9. 2. INTERVENING VARIABLES

Personality factors were one of the intervening variables found to affect some of the results occurring with training in

psychiatry/

psychiatry. Introverts were shown to be more successful students at their overall medical studies than extraverts, and to fluctuate less in the quality of performance from one professional examination to another. (It was demonstrated as well that students who are good medical school examination performers also do well in the professional examination in psychiatry.)

Thinking-introverts, i.e. students who are reflective and have a liking for abstract ideas, do better in the professional examination in psychiatry than students who are disposed towards a preference for practical ideas.

Some of the attitudes studied in this investigation were also found to depend on personality factors. e.g. Students are more likely to describe themselves as having difficulty with patients they see on the wards (and also in their relationships with fellow-students) the more introverted they are; such difficulty with patients and peers is also related to degree of Neuroticism in students.

The more anxious students were (as measured by the Neuroticism scale), the greater readiness they showed to diagnose psychological disorder on positive grounds; more stable students preferred diagnosis of psychological disorder by prior exclusion of any possible organic illness.

Sex/

Sex difference among students also had to be controlled in evaluating the effectiveness of the different training methods. Women were more competent than men students, as assessed by their professional examination performance throughout the medical training. Women were particularly constant in their examination performance, men tending to be more variable. Women did better than men in the psychiatry essay examination, the multiple choice examination and in both filmed interview tests of clinical skill. In personality also women differed: they were higher in Neuroticism and more introverted than men students. Numerous attitudinal differences were found between men and women students.

Country of origin was the third intervening variable calling for attention. Students from overseas countries were found to perform worst in the medical course as a whole. In the multiple choice test of factual psychiatric knowledge, Scots students did best.

9. 3. RELATIVE MERITS OF LECTURE TEACHING AND SEMINAR TEACHING

Students taught by lectures did not learn any more factual knowledge about psychiatry than did students taught exclusively by seminars. The advantage sometimes claimed for lectures, that they are a good method for imparting facts, was thus not supported.

Students taught in seminar groups did not acquire more clinical skill than students taught by lectures. The test of clinical skill employed failed to detect differences between the two groups of students.

The area most sensitive to instructional method is that of students' attitudes. Students taught by lectures were found to differ considerably in their beliefs and opinions from students who had been taught in tutorial groups.

Tutor-taught students were more satisfied with the teacher contact they obtained, and perceived their teachers as more interested than did lecture-taught students. (Seminar-taught students felt the need for some lectures, while lecture-taught students considered they had been excessively lectured.)

Seminar teaching is highly correlated with students seeing patients for themselves, while students taught by lectures more often fail to examine patients personally.

Students themselves view seminar training as more effective than lectures for teaching psychodynamic knowledge. The technique for examining patients' emotional state was much better taught by seminars, they considered, than by the lecture method.

Students taught by seminars were more interested in psychiatric patients. They were more confident that they

would/

would know how to manage the situation when patients express an emotional attachment to the doctor. Seminar-taught students were more prepared to accept responsibility for patients with major psychiatric illness encountered in later practice.

Students themselves greatly prefer seminar teaching to lecture teaching. Moreover, those taught by seminars evaluated their training with greater approval than those taught by lectures.

9. 4. COMBINED TEACHING, USING SEMINARS IN ADDITION TO LECTURES

The comparison of effects of lectures vs. seminars was extended by devising and using an intermediate form of instruction (described as Combined Teaching) consisting of lectures and some seminar groups for clinical instruction.

When Professional Examination in Psychiatry scores were used as the criterion, Combined Teaching produced the best results, seminar teaching being next most effective, while students taught by lectures did worst. When Clinical Examination scores were used as the criterion, students were ranked in the same way, Combined Teaching proving the most effective and Lecture Teaching the least effective.

Although better performance occurred after Combined Teaching, this form of instruction failed to influence students'

attitudes/

attitudes to the degree resulting from seminar teaching. In many respects students were more appreciative of seminar teaching, Combined Teaching achieving an intermediate result and lecture teaching obtaining the least favourable responses.

Inclusion of some seminars in the training led students to perceive their teachers as more interested than did the lecture-taught students, but students taught exclusively by seminars considered their teachers the most interested. Students after Combined Teaching perceived psychiatrists' response to patients less negatively than did lecture-taught students, but still with less approval than did seminar-taught students.

While Combined Teaching allowed more students to examine patients for themselves than was the case with lecture teaching, a fair number of students after Combined Teaching still avoided personal contact with patients, which happened with none of the seminar-taught students.

No matter which of the three methods of instruction students were given, they considered seminar teaching preferable to lecture teaching.

The more the amount of seminar teaching, the better students considered they had been instructed in the technique for examining a patient psychiatrically.

Students/

Students learned most psychodynamic knowledge, in their estimation, if they were taught in small groups, less with combined teaching, and least from a course of lectures and demonstrations. Their assessment about the amount of psychotherapeutic skill they acquired was the same: least with the lecture course, most in the seminar groups, and an intermediate amount from Combined Teaching.

Only to give instruction about descriptive psychiatry was lecture teaching regarded as superior. When evaluating the excellence of their training as a whole, the more the number of seminars they were given, the greater was students' enthusiasm for the course.

Finally, the more the seminar-content of the training, the more positive the attitude students expressed towards cases of major psychiatric illness appearing in their later practice.

APPENDIX 1

STATISTICAL TESTS

The responses of students were ranked on both the performance and the attitude variables. Therefore Kendall's correlation coefficient tau could be calculated between any two measures. It is a test of significance for non-parametric data. The significance test associated with tau (Kendall, 1955) tests the null hypothesis that the variables are not correlated in the population from which the sample is drawn. In other words, a sufficiently small value of p indicates that variable A rises with variable B if tau is positive, or that variable A falls with variable B if tau is negative. The value of tau gives an indication of the strength of the relationship between the variables in the sample and represents an estimate of the strength of the relationship in the population from which the sample was drawn.

To analyze some contingency tables the chi square test was used, if the categories of either or both of the marginal variables could not be regarded as ranked.

The computer program (Rees, 1964) was especially written for this experiment, for use on the Atlas Computer at Manchester.

APPENDIX 2

SELECTION PROCEDURE

Two findings may be related to the selection of applicants to medical school. The first is the superiority in performance of women, and the second finding to be explored is the difference between years in Neuroticism, Year A students being more stable and the Year B students higher in Neuroticism.

In examining the selection procedure, three differences were found between the two years:

i. The committee which did the preliminary screening of applications for Class A consisted of two members, while that for Class B had an additional member.

ii. For Class A more applicants were interviewed (20 per cent of those applying) than for Class B (13 per cent), as is shown in Table a.

iii. Proportionally slightly more of the women applicants were interviewed for admission to Class A (23 per cent, as compared to 19 per cent of the male applicants); however, for Class B only 9 per cent of the male applicants were interviewed but 33 per cent of the women applicants.

Table a./

TABLE (a). RESULTS OF INTERVIEWING APPLICANTS, YEARS A AND B.

	Year A			Year B		
	Men	Women	Total	Men	Women	Total
Number applying	680	204	884	781	183	964
Number interviewed	133	48	181	67	61	128
Percentage interviewed	19%	23%	20%	9%	33%	13%
Number of interviewed applicants who started studies	26	11	37	21	17	38
Percentage	20%	23%	20%	31%	28%	30%

Class A was formed out of a smaller number of applicants (Table b). Two senior Faculty members, Professors B and W, screened the applications and graded applicants. Those graded A were sent letters of acceptance. Those graded B were interviewed, because their records were not clear enough or had unfavourable features, such as examination failures, unduly long time taken to pass at school, or a poor report from the headmaster. Some candidates graded C were granted interviews if the record gave indication of qualities meriting consideration. This grading system was used for men and women, and for Scottish, other United Kingdom, and for overseas applicants; applications of women, and of all overseas students were then again reviewed

and/

and the best admitted until the quota was reached.

TABLE (b). SUMMARY OF APPLICATIONS, YEARS A AND B.

	Year A			Year B		
	Number	Men	Women	Number	Men	Women
Applicants	884	515	118	964	782	182
Withdrew applications	215	165	50	174	139	35
Places offered	221	173	48	235	196	39
Started medical studies	137	101	36	147	111	36
Rejected	532	414	118	643	532	111

Three senior Faculty members, the two active in the previous year with the addition of Dr. P, graded the applications for Year B. As stated above, a much smaller proportion of applicants were interviewed, and among these - contrary to the selection procedure in Year A - proportionately more were women applicants.

It is clear that a selection factor did not operate proportionately against women applicants. A bigger proportion gained admission than among the men applicants (the more so in Year B). Evidence was presented in Chapter 6 that women do better in medical school. A possible explanation is that self-selection operates during school years, before university admission is sought, more intelligent girls than boys deciding to enter medicine as a career.

The selection procedure suggests a number of possible

explanations/

explanations why Years A and B differed, and why relative selection for high Neuroticism took place in Year B. The preliminary screening committees differed in composition, so that the interviewing panels were required to interview less students in Year B and then to concentrate especially on the women applicants. Of these a higher proportion impressed the selectors favourably than in the previous year.

APPENDIX 3

THE FIVE MAIN COMPONENTS AMONG THE TRAINING OBJECTIVES OF PSYCHIATRISTS IN MEDICAL SCHOOLS

A questionnaire made up of 64 items was administered to 77 teachers of psychiatry in five British medical schools. Their responses were factor analyzed, using a principle components analysis; the data processing was done on the Atlas computer using a program written by Dr. K. Hope. Five factors were extracted which, taken together, account for 33 per cent of the variance.

The five most important dimensions along which lecturers in psychiatry describe their teaching objectives for undergraduate medical students are as follows:

1. UNDERSTANDING PATIENTS: Either they want to sensitize the medical student psychologically or they do not. When the effect of this orientation is removed, the next most prominent teaching aspiration of the lecturers is apparent.

2. ACADEMIC PSYCHIATRIC INSTRUCTION: Either teachers want academic-type psychiatry (behavioural sciences, research procedures, descriptive systematic psychiatry) taught or they do not.

3. INTEGRATING PSYCHIATRY WITH MEDICINE: The third bipolar orientation deals with the "psychosomatic" teaching approach.

Either/

Either teachers believe in an integration of psychiatric training with general medicine, or they consider psychiatry a separate discipline with its own field and techniques.

4. EMPHASIS ON MILDER MENTAL DISORDER: Either teachers want the mild psychiatric disorders taught to students, or they advocate training about psychoses.

5. PSYCHO-PHYSICAL DIFFERENTIATION: The fifth dimension, apparent when the effect of the other four is removed, contrasts teachers who want emotionally-ill patients separated off from psychiatric patients with constitutional factors in the illness. The former patients they consider students should learn to treat by psychotherapy. At the other end of the pole are teachers who oppose such psycho-physical differentiation in the training. They want both emotional and organic factors explored in every case, and such teachers tend to oppose training undergraduate medical students to do psychotherapy.

All 77 teachers hold either a positive or a negative position, of greater or lesser intensity, on each of the five training dimensions.

APPENDIX 4.

CLINICAL EXAMINATION MARK SHEET

Student's Name: .....

Date: .....

Examiners: .....

1. Student's competence in obtaining history of illness and/or examining mental status - (50 per cent) .....

2. Ability to organise and present material - (15 per cent) .....

3. Ability in formulating diagnosis - (15 per cent) .....

4. Adequacy of plans for treatment and management of patient - (20 per cent) .....

TOTAL - (100 per cent) .....

APPENDIX 5

LECTURE COURSE (CONTENT)

(12 lecturers participating)

Lectures	Demonstrations
1. History of Psychological Medicine 2. Aetiology of Mental Illness	
. . . . .	1. Old Age
3. Neuroses 4. Anxiety and Hysteria 5. Obsessional States	
. . . . .	2. Psychoneurosis
6. Personality Disorders, including aggressive psychopath 7. Addictions, Sexual Perversions, abnormal personalities 8. Psychosomatic Disorders	
. . . . .	3. Perversions and Psychopaths
9. Treatment of Psychoneurosis I 10. Treatment of Psychoneurosis II 11. Alcoholism	
. . . . .	4. Alcoholics
12. Affective Disorders I 13. Affective Disorders II 14. Schizophrenia - clinical features	
. . . . .	5. Affective Psychoses
15. Paranoid States 16. Biochemistry of Psychosis 17. Principles of Organic Psychiatry	
. . . . .	6. Schizophrenia
18. Psychiatric Complications of Organic Disease 19. Dementias and Degenerations 20. Psychiatry of Old Age	
. . . . .	7. Organic States and Epilepsy
21. Children - Behaviour Disorders 22. Syndromes in Child Psychiatry 23. Mental Defect I	
. . . . .	8. Film on Child Psychosis and Discussion

24./

24. Mental Defect II
25. Medico-Legal Psychiatry I
26. Medico-Legal Psychiatry II
. . . . . 9. Mental Defect

27. Rehabilitation and Community Care

APPENDIX 6

A CLINICAL DEMONSTRATION IN THE LECTURE COURSE

Schizophrenic patients were demonstrated. The lecturer had periodically to leave the theatre with the patient he had just shown, to fetch the one he was to demonstrate next. Much student response occurred when he was out of the lecture room, both whispered conversation and louder comment, so that between patients considerable noise swelled up in the lecturer's absence.

The lecturer tried to elicit from each patient in turn a characteristic abnormality, e.g. a delusion the patient was known to have experienced. A patient was shown who had been deluded that he was Nelson, and in answer to fairly direct questions he agreed that he had been at the battle of Trafalgar. His departure from the room with the lecturer was the occasion for renewed whispering. To the witness the amount and intensity of response from the students, unknown to the lecturer, was remarkable.

With the next patient an ambivalent tendency was demonstrated. The lecturer instructed the patient, "Don't give me your hand". He then extended his own hand to the patient, as if inviting a handshake. The patient hesitated. The students whispered, and their reaction became a muttering as the lecturer commented, "A certain amount of automatic obedience."

Introducing/

Introducing the next patient before going to fetch him, the lecturer raised some laughs when he commented: "He was at one time a Liberal candidate for a constituency in Edinburgh - that in itself is not diagnostic of anything." He was a catatonic patient with posturing. The students were certainly attentive. Students were not invited by the lecturer to comment, nor did they in his presence and at the end of the demonstration he left without asking if there were questions.

APPENDIX 7

TUTORIAL SESSIONS

1. Professor A's Group: A student X discussed the symptoms and clinical types of anxiety neurosis, the assignment he had been given a week previously. He spoke confidently and concisely, using the blackboard to emphasize central concepts.

A second student Y then interviewed a housewife suffering from an anxiety neurosis. When the patient left the room Professor A asked the student who had done the interview, "If you had to do it again, how would you change it?" The student who interviewed the patient was thus given the opportunity to criticize his own performance. He responded: "I think what I did was to suggest some of the answers to the patient, in the way I framed my questions." Professor A asked him to provide an example but he could not remember one. A fellow student pointed out that he had asked: "Your children are fine, aren't they?" Fellow-students suggested how he should have framed that question to give to the patient more scope for a spontaneous response.

2. Dr. F's Group: Before the tutor arrived the students told me the topic was to be schizophrenia. However, it was alcoholism and drug addiction. The tutor spoke about the definition and three criteria of addiction: overpowering desire, tendency to increase the dose and physical and

psychological/

psychological dependence.

A bearded student asked the tutor to explain the distinction between addiction and habituation, and the place of cigarette smoking was discussed. The tutor read the W.H.O. Technical Report of 1951, causing one student to laugh aloud over the phrase: "drinking going beyond customary traditional and dietary use".

The tutor invited students to suggest causal factors. "One has to do social drinking." "Extreme business pressure." "Loneliness." "It reduces anxiety and depression in some people." "Too much leisure time." "Money comes into it."

The tutor agreed, and went on to discuss varying incidence in different countries. He contrasted the high incidence in France with the relatively low rate in Italy and asked why that should be so.

A woman student: "Euphoric temperament."

Tutor: "Well ....."

Second woman student: "Roman Catholic church ...."

The tutor talked about cultural factors, and touched on the value placed in the United States on being extroverted. "Alcohol helps this. In the East, where introversion is valued, what is used more?" A male student said, "Morphia".

A woman student: "If poppies grew in the West and barley in the East, wouldn't it have been reversed?"

The group then discussed social drinking, a man emphasizing

that/

that alcohol gets people to mix, a woman that it helps get rid of anxiety.

A male student: "In this University if you don't go drinking your'e not one of the lads."

This assertion was not examined. Instead, the tutor began to describe complications of alcoholism. A woman student knew about Korsakoff's psychosis. "The patient's memory is disturbed and they fabricate their past."

Tutor: "Confabulate." He went on to talk about the condition preceding Korsakoff's syndrome, delirium tremens. A woman student returned to Korsakoff's syndrome: "Is the Korsakoff's the cause of the common plausibility? Alcoholics are terribly plausible." The tutor explained the distinction. The session ended on a note of criticism from a male student: "Alcoholics don't like to face the facts. They deceive themselves. They think, 'Let's have another drink anyway'."

The first group illustrated was characterized by its relatively clear structure and the introduction of a patient, the second by the considerable spontaneous comment drawn from the students.

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